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ORIGINAL LECTURES.

MÜTTER LECTURES.

ON THE HISTOLOGY OF INFLAMMATION.

Delivered before the College of Physicians of Philadelphia, May 5 and 6, 1882.

BY E. O. SHAKESPEARE, M.D.

ABSTRACT OF LECTURES VI. AND VII.

INFLAMMATION IN THE SEROUS MEMBRANES.

GENTLEMEN: In choosing for the subject of this and the following lecture, inflammation of the serous surfaces, I have been prompted by the desire to continue the examination of the processes of inflammation in tissues removed as far as possible from the domination of the direct influences, whatever they may be, of the blood vascular system. In the cornea and in the cartilages we have seen something of the inflammatory processes at work in absolutely non-vascular structures. In certain portions of the serous membranes we have, oftentimes, comparatively large areas of tissue removed from close proximity to the blood-vessels. In the omentum, in the meso-gastrium, in the mediastinum, and in other locations, we often find series of the fibrous trabeculæ, which form the fenestrated membranes, entirely void of blood-vessels, and more or less remote from a direct communication with them. Moreover, in the endothelial investment of the surfaces and the delicate basement membranes beneath it, we have furnished for our observation elements and structures which, although generally very near the blood capillaries of the subserous connective tissue, may yet be strictly classed as non-vascular. Thus the serous membranes afford opportunities for studying the inflammatory processes in structures which may be said to form the border-land between the so-called vascular and non-vascular tissues.

What is the minute anatomy of these tissues? and what the nature of the cellular elements which are found in and upon them? These questions have been very thoroughly and, in the main, satisfactorily answered through the labors of Recklinghausen, Ludwig and Schweigger Seidel, Schwalbe, Dybkovski, Axel Key and Retzius, Ranvier, Klein, Delafield, and others. And I shall not occupy time in discussing them further than to say that, so far as the abdominal and thoracic cavities are concerned, I accept as generally demonstrable the minute anatomy of these serous membranes as laid down by Klein in his splendid work upon that subject. I have nothing to add beyond the statement that the larger fibrous bundles can usually be shown to be composed of smaller bundles, each of which is in part enwrapped by extremely small flat cell-plates, just as was found for the cornea. Furthermore, the parietal portion of these serous membranes seems to be constituted by a succession of exceedingly thin lamellæ of fibrous tissue, between some of which, oftentimes, more or less extensive and continuous sheets of endothelial cell-plates, in a single layer, can be demonstrated to exist. Especially is this true of the costal pleura, of the parietal pericardium, and of the dura mater.

Before leaving the consideration of the normal histology of the serous membranes, I would call your attention to one or two points which I think have not been much dwelt upon heretofore in relation to the physiological and, perhaps, pathological significance they may possess. What I now suggest has special application to the peritoneum and its normal functions.

It may be considered an established fact, that new lymph spaces, lymphatic nodules and tracts, which are the analogues, both in structure and function, and are often the earliest rudiments of the minutest lymphatic glands, are in the young and growing animal constantly forming and increasing in size throughout the connective tissue existing in the folds of the peritoneum. The new formation of lymph cells is a natural consequent of the development and growth of these minute organs, from the fixed connective tissue cells, after the process which Klein explains. The connective tissue of the mesentery, of the omentum, and of other folds of the peritoneum may therefore very naturally be regarded in one of its aspects as a manufactory, often quite active, of the lymph corpuscles, which through the usual channels are poured into the circulation. And the same may be said, although with less effect, of the new formation of blood, as indicated by both Klein and Ranvier. In fact, the earliest rudiment of the spleen appears in a fold in the peritoneum as a simple lymphatic nodule of microscopic size.

Furthermore, upon the surface of the peritoneum, as is well known, there are met with spots where the endothelia are in an active, formative, or so-called germinal condition. In such a state these fixed cells are capable, by a process of germination or division, of giving birth to lymph cells which become detached from the surface and carried away in the lymph plasma which lines it. Some of this peritoneal fluid is pumped at once through the lymphatics of the diaphragm and forced directly into the thoracic duct, or through another channel into the blood circulation.

In the young and growing animal, in whom the spots of germinating endothelia are often quite numerous, this source of supply of the white elements of the blood may be not inconsiderable.

As to the *inflammatory processes* in the serous membranes, I have very little that is new to offer, and have introduced the consideration of them in these tissues mainly to show that often, if not indeed always, the pathological alterations brought about by inflammation are in many points essentially the same, and are effected in a similar manner, only being more or less complicated by the presence of the emigrated white blood-corpuscle.

The effects of irritants applied to serous surfaces of the lower animals are in many cases, at least in some stages of the inflammatory action artificially established, so nearly identical to those of the intangible morbific agents which excite and aggravate inflammations in the human serous membranes, that we can generally very easily reason from one to the other. The chief cause of what differences there may be in the ultimate courses the inflammation may pursue, is often involved in the circumstance that in the lower animals a strong, vigorous subject, in whom the vital powers are unimpaired, is selected for experiment; whilst, on the other hand, in the human being, it frequently happens that the irritant starts and keeps alive an inflammation in a subject whose vitality is already seriously lowered.

In the first order of cases there is a marked tendency to reparatory inflammation; in the second there is frequently found to be a strong predisposition to destructive and degenerative changes.

By varying the amount and the character of the irritant used to establish an inflammation of the pleura or of the peritoneum, we can, in the lower animals, to some degree regulate the intensity of its action, and thus, almost at will, as it were, procure tissues presenting the various stages of inflammatory action.

Thus a slight inflammation can be established in the peritoneal cavity, which will go no further than an alteration affecting, in the main, the endothelial cells of the surface without an appreciable effusion of serum, or a marked out-wandering of the white cells of the blood. Such an effect is first shown in the germinating cells which already exist in the neighborhood of real and of pseudo-stomata. They are stimulated to much increased activity, followed by the production of lymph corpuscles, and by new cells of the same kind as themselves, which arise in part from the division of cells which at first were in a germinal condition, and in part from a rejuvenation of neighboring old endothelial cells. Thus we have a considerable widening of the areas of germinal cells, and a heaping up of these cells in layers two or more deep. At the same time this change is taking place in the germinal spots already formed, the intervening old endothelial cells in very numerous spots and areas more or less extended are returning to a similar embryonal state, evidenced by increase of nuclei, swelling and division of the cells. It is to be noted that these changes in the investing endothelia are to be seen in those cells which cover the bloodless trabeculæ of fenestrated membranes as well as in those which rest in closer proximity to the blood capillaries.

In those trabeculæ which are void of blood-vessels, as well as in those which are supplied with blood, but no more so, indications of the small flat cells which partly cover the small primary bundles, which constitute the main bundle of fibrous tissue above mentioned, are now sometimes decidedly distinct.

An inflammation of this slight force may pass away and leave no trace, the elements and tissues quickly assuming their former appearances. But if the irritation persist, and keep alive a slow inflammatory action of about the same intensity, the germinating endothelia give rise to thickenings and often to minute polypoid projections from the surface, which at first are formed almost exclusively of cells of the germinating type, but which subsequently may contain newly formed connective tissue and sometimes vessels, whilst at the same time there is an increase in thickness of the subserous connective tissue, which in time will occasionally produce enormous thickening of the membranes. Opposed surfaces may in such cases form organized adhesions.

In this degree of inflammation a decided participation in the processes cannot often be denied for the emigrant cells of the blood, but there can be no question of the efficient agency also of the fixed cells in working the changes.

A more intense irritation involves more rapid changes, which are not then limited mainly to the investing endothelia and superficial connective tissue fibres. The proliferation of the germinal cells is so rapid as to cause an abundant formation of embryonal cells from them; the older endothelia swell up and become loosened and detached from their bed. Moreover, there is abundant emigration from the blood-vessels, and a consequent infiltration of the connective tissues with leucocytes, and they appear also upon the denuded surfaces in great quantities. The blood-plasma soaks the fibrous tissue, whose interspaces are widely distended. *Every cell* in these tissues is at work, the fixed connective tissue cells as well as those minute flat cells to which attention has already been called. They multiply and grow, returning to the embryonal state often at the expense of the adjacent fibrous bundles which are thereby softened and may be dissolved.

Reparation of the injury thus wrought cannot be said to be the result of the activity of any one class of elements. The assumption that of this great mass of cells endowed with embryonal activity, only those which have emigrated from the blood, or are directly descended from them, are the real builders, whilst those derived from the fixed cells of the tissue are merely agents of destruction, I consider to be entirely unwarranted by any facts at hand.

[The lecturer dwelt also to some extent upon inflammation in the pleura, and drew similar deductions.

He again referred to the above-mentioned probable physiological function of the peritoneum, and advanced in this connection the suggestion that the serious consequences which inflammation in the peritoneum so often induces perhaps has some intimate relation to the disturbances of these normal functions of lymph and blood production.]

ORIGINAL ARTICLES.

REPORT OF A CASE OF TRAUMATIC TETANUS, TREATED BY ESERINE; DEATH.

BY CHARLES T. BECK, M.D.,
OF NEW YORK.

WILLIAM W., a well-developed lad of sixteen, accidentally stepped upon a rusty tenpenny nail, March 17. He drew the nail out of his foot, and, making little of the accident, continued at his work until March 24. Feeling only a little stiff and tired, he ascribed his indisposition to constipation, and took a few cathartic pills, which he believed greatly relieved him after operating. During the night his sleep was very restless, and he moaned incessantly. When awakened and asked why he complained, he did not know that he had complained, and said he felt all right. Towards morning, however, the symptoms assumed a more alarming aspect, and by 8 o'clock (March 25) he had the first distinct tetanic seizure. The pain in the epigastric region and the muscular contractions rapidly increased until, about 10 A. M., an extremely violent paroxysm threw him into the opisthotonic posture, in which I found him on my arrival, and from which he never completely recovered. Impelled by his shrieks and imprecations for relief, $\frac{1}{30}$ grain of atropia and ½ grain of morphia sulphate were administered hypodermically. The treatment may be briefly summarized in a few lines, as follows: As soon as the medicine could be obtained from the drug-store, 15 grains of chloral hydrate and 20 grains of bromide of potash were administered every half-hour, until four doses had been given. Seeing no positive effect of the medicine after two hours, the dose of the chloral was increased to ℈j and that of the potash salt ℥ss every half-hour, until six more doses had been given. The paroxysms, which still came on every five to six minutes, were, in addition, met by chloroform inhalations. Returning at 6 P. M., the patient seemed somewhat more quiet. The skin was drenched in perspiration; the face flushed; and the pupils were slightly contracted. The respiration was deep and stertorous, and numbered 28 per minute; the pulse numbered 92 per minute; the thermometer

registered 99½°. The convulsions still coming on every eight to ten minutes, and lasting from one to two, it was deemed neither wise nor expedient to push the medicines given further. Seeing the article on "Traumatic Tetanus Treated with Eserine," by Dr. Thomas Layton, in THE MEDICAL NEWS, March 25, this drug was selected, and $\frac{1}{64}$ of a grain prescribed every hour. Not agreeing upon the extent of surgical procedure in a consultation held, the wound was cauterized with strong carbolic acid, and poulticed. The chloroform was retained, to be administered during the attacks.

At 10 P.M., no change being visible—temperature, pulse, and respiration varying mainly according to their proximity to the convulsions, and the pupils being, if anything, slightly dilated—the eserine was advanced to doses of $\frac{1}{48}$ grain every hour. After the second dose the patient seemed somewhat easier, the pupils became slightly contracted, the respirations becoming deeper and fuller, the pulse and temperature more natural. The patient, under this dosage, seemed steadily to improve, and at 1 A.M. (March 26) became quite cheerful, and even asked for nourishment. The convulsive seizures, averaging one in every twelve minutes, became gradually again more severe after 2 A.M., and at 4 A.M. he had grown so bad that I was hastily summoned. When I arrived I found him lying on his abdomen, the head and feet supported in proportion to his opisthotonos. The pupils were *normal;* the face suffused, from the chloroform given; and the skin generally moist. The bowels had moved, and the urine passed with almost every convulsion. Temperature was 100¼° Fahr. The pulse and respiration were most too changeable to be observed, averaging, however, 90 and 30 respectively. The treatment was modified only by giving the eserine in $\frac{1}{48}$-grain doses every half hour.

March 26, 9 A.M.—The pulse and respiration had become more rhythmical and regular again (96 and 32 respectively), the temperature being 101¼°. The pupils were scarcely contracted. The skin was moist, and the face still suffused. The spasms came on every fifteen minutes, and upon the slightest noise; especially, too, when food (milk) or medicine was administered. It was now decided to cut down into the site of the injury, and to carefully explore the wound. An incision about three inches in length was made parallel with the third metatarsal bone, through the spot of the nail's entrance. The whole tract the nail had taken was marked by a blackish discoloration, from which five quite appreciable particles of iron were removed. The wound extending down into the interosseous space was thoroughly swabbed out with strong carbolic acid, dressed with carbolized lint, and poulticed with carbolized meal. The eserine was now pushed to $\frac{1}{36}$ grain every half hour, and the chloroform retained as adjuvant.

2 P.M.—The patient's condition is apparently a little more comfortable. The pupils are slightly contracted; the face is somewhat paler, and the skin moist; temperature 101°; pulse 112; respiration 36 per minute; convulsions returning about one every twelve to fifteen minutes, and growing weaker with the strength of the patient. Increased eserine to $\frac{1}{24}$ grain every half-hour.

5.15 P.M.—Spasms averaging one every fifteen minutes; face still growing to a more ashy color; the skin bedewed with cold sweat, though the thermometer registers 101°. The pulse averages 96 and the respiration 36 per minute. The latter, though regular in rhythm, is accompanied by decided mucous, tracheal, and bronchial râles; and, though pupils were again more natural, it was considered useless to continue the eserine; especially, too, because of the laryngeal spasm and evident hopelessness of the case. To relieve the suffering of the patient, rather than even aim at a cure, fifteen minims of Magendi's solution of morphia were now injected hypodermically every half hour, watching the effects.

Saw him again 10.30 P.M., when he was noticed rapidly sinking, the convulsions coming on, much weakened (like the patient), every twenty to twenty-five minutes. The respiration still numbered about 32 between the spasms; stopped entirely during the spasms; and was somewhat hastened immediately after them. The pupils were neither contracted nor dilated, but failed almost entirely to respond to light. The morphia was administered more cautiously, as also the chloroform. At 2 A.M., March 27, patient had another violent convulsion, in which he died.

Seeing him two hours after death, the body was still warm, quite moist, and the rigor mortis so intense that neither hand nor foot could be moved without moving also the entire body. The left half of the lower lip was fixed between the teeth, and partly bitten through. The pupils were dilated, and the body was also in death in extreme opisthotonos. Re-examining the wound, two more grains of iron were found, the one embedded in the fourth digital branch of the plantaris internus, midway between its origin and bifurcation.

Had the case been seen earlier, and operated upon sooner, he might, in my opinion, have been saved.

A PECULIAR INJURY TO THE HIP-JOINT,

FOLLOWED BY TETANUS AND DEATH—POST-MORTEM EXAMINATION OF THE PARTS.

BY W. H. DALY, M.D.,

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(*Read before the Allegheny Co. Medical Society.*)

THIS pathological specimen of the right hip-joint upon which the following report is based, was the result of an injury so peculiar in character as to merit more than ordinary attention, in a surgical, as well as in a pathological, point of view. The notes from my case-book with reference to it are as follows: Benton J., single, aged twenty-three years; of healthy and vigorous Welsh parents; a native of Pittsburg, Pa.; of temperate habits; nervo-sanguine temperament; rather irritable disposition; very muscular, and powerfully built, weighing one hundred and eighty pounds; light complexion; a member of the paid Fire Department of Pittsburg.

May 2, 1877.—At the sound of the alarm-gong, about daylight, he jumped from his bed with a sudden and powerful bound, alighting on his feet, and at once felt he had hurt his right hip, which sustained the shock of alighting. Thinking it only a slight sprain, he proceeded to dress himself, but with some difficulty.

It may be well to note that the patient was in the habit of sleeping on his left side, and at the sound of the alarm-gong, even while yet asleep, would spring from a lying position on his *left* side to the floor, *never* to the same side, however, but around as it were, describing a more than half circle, by throwing his legs in the air and alighting upon his feet at the other or *right* side of the bed.

This was a force of habit with him, and he had never before failed to make this apparently difficult and circuitous leap, and alight safely and easily upon his feet at the right side of his bed, where his clothing was placed ready at hand to hurriedly dress himself for duty with his engine.

He supposed, but was not positive, that his feet became engaged in the bedclothing when he jumped, hence the accident at this time.

After going across the floor, he learned that the engine with which he was connected was not called out, and at once returned to bed, complaining that he had hurt himself, to which little attention was paid.

Two hours later, he arose, and walked to his boarding-house, *nearly a mile distant*, over the most rugged and uneven pavements in a hilly part of the city. He experienced much pain and difficulty in locomotion, but walked, nevertheless, unaided even by a cane.

Returning to the engine-house after breakfast, he, when dinner-time arrived, repeated the round-trip to his boarding-house, besides walking up and down a high flight of circular stairs at the engine-house some eight or nine times during the course of the day. He complained considerably of pain in the region of the hip-joint of the right side, especially in the anterior region of the joint, and some of his fellow-firemen urged him to send for a surgeon, but feeling that the injury was trivial, he declined, but went to bed, and had some liniment applied to the parts.

3d.—After a somewhat restless night, he found himself unable to rise, and, besides the pain and swelling in his right hip, he complained of feeling sick. Liniments were applied during the day, all the while the swelling and pain increasing, and another night of restlessness and pain followed.

4th.—Suffered considerable pain to-day, but said little about it to the men, and lay quiet in bed all day; had high fever, and drank a great deal of water.

5th.—He thought it proper now to notify the agent of the Accident Insurance Company, with which he had a policy of insurance, who upon inquiring into the case, at once called upon me, as one of the Company's examining surgeons, to visit the man and ascertain the character and extent of his injuries, which I did about noon on the same day.

This brings the history of the case up to the time I first saw it, on the fourth day after the reception of the injury. The patient was lying in the dorsal decubitus on a single bed in the dormitory of the engine-house; his face was flushed; he was very nervous and apparently suffering considerable pain. There was high inflammatory fever, 104¼° Fahr., with pulse 130, full and tense. He could not move the limb, or even bear the weight of my hand laid on the thigh, which was swollen to a circumference 2½ inches greater than its fellow; he grasped me spasmodically at every attempt I made to handle or inspect the injured member. The point of greatest tenderness was directly over the joint anteriorly. Now placing the patient fully under the influence of an anæsthetic, I made a careful examination of his case.

The length of both legs was alike, as measured from the anterior superior spinous process of the ilium to the great trochanter, and from the first-named point to the patella, as well as to the internal malleolus, and also down around the sole of the foot to the middle of the dorsum, the line being drawn from the umbilicus. All these measurements accorded in establishing an absence of deformity in the length of the leg. The mobility of the limb was unimpeded in all directions, and there was an absence of crepitation upon rotating the shaft of the femur upon its axis.

The application of Nélaton's or Roser's test, by drawing a line from the tuber ischii to the anterior superior spinous process of the ilium, brought the apex of the great trochanter directly in line, and negatived a dislocation or fracture of the neck of the femur. There was no inversion or eversion of the toes.

I was consequently assured, whatever the injury, there was neither fracture nor dislocation of the hip; but, from the high local inflammation and grave constitutional condition there was evidently a serious injury to deal with, involving the muscles about, and possibly the ligaments of, the joint.

Explaining to the patient the serious nature of his injury, I admonished him to send for his surgeon. Not having any, he requested me to take professional charge of his case.

Examining now his general condition more fully, with a view of prescribing for him, I found his tongue somewhat swollen and indented at the edges, dryish and clammy, and of a dark-red color. There was a marked tremor about the angles of the mouth and lips, some twitching of the hands, and an indisposition to permit the head to be drawn forward. I ordered Tr. aconiti rad., gtt. iii.; Potass. bromide, grs. xv.; Morphiæ sul., gr. ⅛, to be given every three hours, and a cold lotion of lead and laudanum locally to the thigh from hip to knee, and the whole limb was placed in an easy position.

6th.—Was requested to attend him at his boarding-house, whither he had been removed to secure more perfect quiet and repose, as the noise about the engine-house disturbed him. Here the treatment was continued on general principles, relief from pain being secured to him by means of the anodyne, and the fever kept under control by means of aconite and cooling lotions locally. The tongue, which had, from the 5th to 8th day, been dry and glazed

in the centre, and of a dark-copper color, now, on the 12th of May, has become moist, and nourishment is relished, spirits buoyant and cheerful. He expressed a desire to be assisted out of bed to rest on a reclining chair. He was now able to move the injured leg and unaided raise the heel off the bed. The bowels are regular, and urine passed without difficulty. The patient doing so well as to only require a visit every second day. He was helped out of bed occasionally, and allowed to rest on his reclining chair, with the leg in a comfortable position, from 15th to the 22d of May, or until twenty days after the injury, when, at my visit, I found a decided exacerbation of the fever, and the tenderness which had hitherto been limited to a circumscribed spot just below the origin of the sartorius muscle, or immediately over the joint anteriorly, was now complained of all around the joint.

23d.—The tongue has now become dry and parched again, and of a very darkly glazed appearance; there is no abdominal tenderness whatever; the bowels are tympanitic and confined, but readily become relaxed by the administration of small doses of magnesiæ sulphatis. There is much restlessness and irritability of temper on the part of the patient, and some subsultus tendinum. He complains of a stiff feeling about the submaxillary triangles, and informed me now, with much concern, that he had, when a child, suffered from lockjaw, from running a piece of iron into his foot, and now feared that he would have another attack, from the way he felt. He continually pulled the pillows from under his head and threw them aside, seeming to want his head retracted and low, and would bury it deeply into the pillow on a lower plane than his back. He was now entirely helpless in every limb and muscle, and wore an anxious expression; in fact, there is now opisthotonos and some spasmodic breathing; pulse, 130 and full; tongue dry; mind clear but irritable; urine copious; and bowels torpid, but respond to saline cathartics. At my suggestion, arrangements are made to have the advice of counsel the next day, and in the meantime the present remedies are pushed more boldly. The tincture aconite rad. was ordered in three-drop doses every hour till fever abates, and the anodyne given every hour until clonic spasm of muscles is relaxed, and the following morning he was much better. Pulse, 90; tongue moist; the patient more cheerful.

24th.—Dr. A. M. Pollock met me in consultation, and the temperature in axilla showed only 99° Fahr., the patient declared he felt first-rate; ten grains chloral hydrate were added to each dose of anodyne, and the same treatment carried on with continued amelioration of the constitutional symptoms and increase of comfort, with the exception of some pain, immediately following the handling of the injured limb in the examination of it by Dr. Pollock, who made a careful inspection for the detection of fracture or dislocation, with negative results. Delirium present first time on the 28th of May, twenty-six days after the injury. With this advent there was another change for the worse. Fever increased; nervous excitement greater; and retention of urine. The use of the catheter was resorted to twice a day, and the same line of treatment pursued, with comfort to the patient, and still fair prospects continuing of the patient's future recovery; Dr. Pollock attending the patient in conjunction with me.

31st.—About 9 P.M. I was called in haste, and found him breathing with considerable difficulty, gritting his teeth violently, and with his head retracted into the pillow in a violent spasmodic manner for a few seconds at a time; mind tolerably clear, but very anxious; temper, irritable, and an occasional rambling, incoherent remark. He complained of a choking sensation about the top of the sternum, and continually tried to swallow something that seemed to gather in his throat. The injured limb was hot and painful to the touch; the tissues all round the joint were hard, but the swelling somewhat diminished. An increase in his anodyne gave him a comfortable night's rest, and he was easier in the morning.

June 1.—His condition is improved this morning, having slept well. Nourishment taken with a relish, and during the day he rested comfortably except when his leg was handled. A bed-sore about the size of a silver dollar was now discovered over the sacrum. A general loss of muscular power is very apparent now.

2d.—He began passing his urine without the aid of the catheter again, his tongue has again become moist, and mind more cheerful and clear; temperature 99° Fahr., but the leg about the thigh has now become flattened anteriorly, and the prominence over the trochanter more marked, the foot of the injured leg now becomes decidedly everted when unsupported, and the whole limb bears the appearance of paralysis; the cellular tissue about the knee is puffy, and fluctuates, but not that fluctuation which denotes the presence of pus. Neither is there fluctuation at any point denoting the presence of pus.

The patient asks for the anodyne, and seems comfortable while under its influence, and fretful when not.

5th.—I find, again, a marked change for the worse. The pulse is 135, full and bounding; delirium great; tongue dry; articulation tremulous and difficult; feces and urine passed in the bed involuntarily. Treatment continued.

6th.—Dr. F. Le Moyne is called in consultation. The temperature is now 104°; treatment continued; aconite increased, but no impression is made upon the circulation, which is 135 per minute, in fact the patient is fast sinking into a moribund condition. His breathing is labored, quick, and choking; his head is retracted, with tetanic opisthotonos; and there are repeated efforts to eject a thick tenacious mucus from the windpipe, which are unavailing.

Death occurred at 4 o'clock on June 7th, from tetanus, thirty-six days after the reception of the injury, and, upon consent of his parents, an *autopsy* was made 24 hours after death, in which I was kindly assisted by my friend, Dr. F. Le Moyne, and Mr. Stone, student of medicine. The dead subject presents a frame closely knit and powerfully muscular, although emaciation had gone on to a great extent, especially in the legs, which have become reduced fully one-quarter in size.

Rigor mortis marked; and extensive suggillations over the entire posterior surface of the body; a bed-sore, as large as the top of a coffee-cup, over the sacrum.

An incision was carried in a curvilinear direction, from a point midway between the trochanter and anterior superior spinous process of the ilium, down over the trochanter, and along over the shaft of the femur. The head of the femur was found in place in its socket, and the capsular ligament unruptured, the veins, nerves, and other soft tissues, all about the joint, were highly inflamed, and extravasated blood, with some clots and serum, found between the muscles, which were softened and easily broken down, and of a pale color. There was no pus either *within* or *without* the joint, or in the tissues. The ligamentum teres was found ruptured from its acetabular attachment. The posterior superior circumference of the articular surface of the head of the femur bears the evidence of a severe contusion of about two inches long and one inch wide, and from the effects of inflammation and ulcerative absorption, is soft and friable to the depth of one-quarter inch at this point. The corresponding surface of the socket bears evidence of similar violence, and at these points the cartilage is entirely absorbed, and the bone rough, soft, and friable, and generally inflamed, though not softened at any other point nor showing any lesion.

The head of femur at point of injury looks to the eye as though it had received a smart blow with a heavy hammer or iron bar, and excites considerable marvel as to how so severe an injury could be inflicted in such a manner, apparently requiring a force to produce it that would fracture any ordinary bone. The bones in this subject are, unusually large and strong, and the injury sustained bears ample evidence of the fact. Inflammatory action has loosened the articular fibro-cartilage around the seat of injury upon the head of the bone, so that I can peel it off like the rind from an orange.

When I hold the parts in the position in which they must have been when the injury was sustained, it is evident that the shock must have been received by alighting with the entire weight of the body upon the right leg in a position of abduction to half its limit from the axis of the body, and the upper rim or border of the acetabulum, with the superincumbent weight of the body, has, in this act, crushed this furrow into the head of the femur so deeply as to admit the distal phalanx of my thumb, disclosing little more than half of its dorsal portion. Then, of course, subsequent absorption has deepened the cavity.

This case is one of unusual interest, and I know of no similar one hitherto recorded. It has a high clinical and diagnostic value, showing that, even with positive evidence of absence of either dislocation or fracture, we may yet have an injury of far more serious moment than either. What is most astonishing in the clinical history of the case, is that the man walked more than four miles the day after the injury with a ruptured ligamentum teres, and a segment of the head of the femur destroyed.

MEDICAL PROGRESS.

OÖPHORECTOMY.—At the last meeting of the London Obstetrical Society, two extraordinary cases of oöphorectomy were related by DR. BRAITHWAITE, of Leeds. In each case one ovary was removed. The first patient was pale and in bad general health, and suffered from dyspnœa dependent on mitral disease. Menstruation was normal. The left ovary was prolapsed and tender on pressure, and it was inferred that the dyspnœa was in some way dependent on the condition of the ovary. Accordingly, the ovary was removed, with the result that the dyspnœa was considerably relieved. It appears that the patient is now in the Leeds Infirmary, the subject of cardiac dropsy. The second patient was a healthy-looking but hysterical woman, who had suffered from constant pain in the left ovarian region since the birth of her first child, nearly four years previously. She had had three children since. The left ovary was prolapsed and tender; it was removed, with complete relief. It is not uncommon nowadays to refer all manner of aches and pains to some abnormal condition of the uterus and ovaries, and that with little or no evidence; but this is the first time we have heard of dyspnœa, depending on heart disease in a patient pale and out of health, being referred to an ovarian disorder, and we fail to discover in the report of the case the slightest evidence for such a view. The second case was clearly one of hysteria, and the physician should have made due allowance for this when estimating her hysterical description of her suffering. In the course of the discussion on the paper, Dr. Hickinbotham, of Birmingham, pointed out, and with reason, that the relief which followed the operation in the case of heart disease was not due to the removal of the ovary, but to the rest and general treatment the patient had had—an explanation which is in accordance with our daily experience in the treatment of heart disease in women without removal of an ovary, and in men without removal of the testicle. What would be said to a proposal to remove the left testicle in a man for dyspnœa dependent on cardiac disease? Dr. Hickinbotham made another statement of the highest importance in its bearing on the operation of oöphorectomy as a curative measure in certain diseases. He said he had been lately called to see a patient from whom the ovaries had been removed two years ago for ovarian pain and hysteria, and found that, although the ovarian pain had been relieved, the hysterical attacks were still of the most severe character. It is not often that we find the condition of spayed women recorded after due time has elapsed since the operation: the cases have been generally published before the ultimate result was known. We have on more than one occasion pointed out that cases so published are of no value in estimating the therapeutic effects of the operation. In Dr. Braithwaite's cases a few months only had elapsed since the ovaries were removed.—*Lancet*, April 22, 1882.

REMOVAL OF BOTH OVARIES FOR INSANITY.—DR. T. B. WILKERSON successfully performed in a young woman nineteen years of age, in August, 1880, the operation of oöphorectomy for insanity, with marked erotic tendencies, of two years' duration. The patient recovered from the operation in three weeks, and in three months sanity was perfectly restored. In a letter to us, under date January 6, 1882, Dr. Wilkerson writes: "I am happy to state that she remains in excellent health, and that she is mentally and physically perfectly restored by the operation. There has been no palling of any of the charms that beautify the female, no change of voice, nor is there any atrophy of the mammæ noted. She is fond of society, gay and lively."—*Amer. Journ. of Insanity*, April, 1882.

THE BACILLI TUBERCULOSIS.—KOCH describes the bacilli of tuberculosis as follows: They are rod-shaped, very slender, and about one-fourth or one-third as long as the diameter of a red blood corpuscle, though longer ones are occasionally met with. They are distinguished from the bacilli lepræ, which they somewhat resemble, by being somewhat narrower and more pointed at the ends, and are not stained by Weigert's process.—*Berliner klin. Woch.*, April 10, 1882.

The micro-bacteria described by BAUMGARTEN, when examined separately, resemble in most points the Bacterium termo, though they are somewhat longer and narrowed, and not so sharply contoured; at the ends, instead of being gently rounded, or even pointed as Koch claims, they are often faintly knobbed or club-shaped, or they may be strictly cylindrical in shape. They, moreover, are almost never grouped in pairs, and never occur in the zoögloea form. Finally they are distinguished from the ordinary forms of putrefactive bacteria in that they cannot be demonstrated by Weigert's process of staining, even when assisted by Koch's method of illumination. They, therefore, differ from the chains of micrococci found by Aufrecht in tubercular nodules, not only in the locality of their occurrence—the latter being confined to the centre of the nodules—but also in the facts that they never occur in groups, and are from three to six times as long as they are broad, the length of Aufrecht's bacteria being only twice as great as their breadth. The only method by means of which Baumgarten has been successful in detecting the presence of these bacteria, is by treating the section with dilute soda or potash solution. In old alcoholic preparations, even when treated by this process, they are to be detected with difficulty or not at all; but when the tubercular masses are taken from a freshly killed animal, hardened for twenty-four hours in absolute alcohol, and then treated as above indicated, the desired result is easily obtained.—*Centralb. f. d. Med. Wissen.*, April 22, 1882.

THE COAT-SLEEVE METHOD OF AMPUTATION.—At a meeting of the Medical Society of London, held April 3, MR. RICHARD DAVY read a paper on the Coat-sleeve Method of Amputation, which he stated consisted in making a circular integumental flap from three to five inches long. After tying or twisting the bleeding vessels, the sleeve of skin is tied up by passing two ends of a tape through a cylinder, and fixing them with a safety pin. Mr. Davy had practised the operation three times, and one of the patients was shown. He laid stress on the fact that only skin, fat, and fascia were of use in making a good pad for the end of a stump. He considered that the advantages of this method were—(1) The conservation of an abundance of skin, fat, and areolar tissue, which are utilized, so that the scar is reduced to a minimum and the cushions to a maximum. (2) The total abolition of sutures, which are generally painful on removal. Sutures as previously applied in a circular amputation necessitated a linear cicatrix on the face of the stump. (3) The facility for restraining and escaping secondary hæmorrhage. (4) Freedom from pain, exclusion of air, and easy application of drainage. (5) The symmetrical appearance and utility of the stump.—*Lancet*, April 15, 1882.

ASEPTIC VACCINE LYMPH.—Much practical interest attaches to the subject treated in the *Jahrbuch für Kinderheilkunde*, Neue Folge, Band xvii. p. 172, by Dr. R. Pott, who gives the results obtained by him in experimenting with vaccine lymph modified by combination with salicylic, boracic, and carbolic acids. The mixtures employed consisted of salicylic solution (1 to 300), boracic acid solution (3.5 per cent.), and carbolic acid solution (1 to 5 per cent.), each of these being combined with an equal part of humanized lymph. All proved active except the 5 per cent. carbolic acid solution. This result corresponds with that obtained by Dr. Braidwood and Mr. Vacher in their more extensive and carefully prosecuted experiments detailed in their second and third reports to the Scientific Grants Committee of the British Medical Association. We do not learn from Dr. Pott his method of procedure, the amount of care he bestowed on testing the inoculative efficacy of the vaccine he used, his manner of mixing it with the antiseptic solution, the length of time during which the vaccine was exposed to the antiseptic influences before inoculation, the cleanliness of the instruments he used, and other such details. On the other hand, Dr. Braidwood and Mr. Vacher have insisted on the great importance of using special instruments for each set of experiments; on the necessity of testing the efficacy of the vaccine itself before drawing inferences from its action when mixed with antiseptic solutions; on the influence of lengthened contact with the antiseptic, especially in the case of carbolic acid; and on the falsity connected with the ordinary manner of conducting such experiments by inoculating a subject on the one arm with vaccine, and on the other with the experimental fluid. In their second report, they state "that a saturated solution of salicylic acid does not impair the efficacy of the vaccine contagium;" and that a saturated solution of boracic acid "impairs the vitality of vaccine contagium little if at all, even after having been kept some days in contact with the contagium-particles." On the other hand (in their first report), their conclusions in regard to the influence of carbolic acid on the vitality of vaccine were "(*a*) that the immediate inoculation of a mixture of vaccine and a moderately strong solution (1 to 20 aq.) of carbolic acid succeeds in a certain number of instances; (*b*) that such a mixture, preserved for some time, seventeen days to six weeks, fails to produce vesicles;" and that the mixture of vaccine with stronger solutions of the acid, and likewise with carbolate of glycerine, "destroys the efficacy of vaccine." They have further distinctly proven that antiseptics in the gaseous state are much more potent destroyers of the vitality of vaccine than are such in solution or in fluid form. Dr. R. Pott claims the following advantages for these aseptic lymphs: 1. The "erysipelatous poison" contained in the lymph is probably destroyed, and the early vaccinal erysipelas in this way prevented; 2. Such lymph may be kept for years without spoiling; 3. The lymph is thinner, and contains no fibrinous coagula. To us, these inferences appear strange and illogical. We are not aware that the "erysipelatous poison" has yet been demonstrated; but we know that Jenner laid down the axiom (and the every-day experience of public vaccinators in England has proven its correctness) that *no* areola should surround the vesicles on the eighth day, and that the redness which appears on the ninth to the eleventh days after vaccination should be evanescent. When post-vaccinal erysipelas occurs, this is not to be ascribed to the vaccine, but to its admixture with blood, epithelium, or impurities from the skin; or to the employment of uncleansed instruments for the operation; occasionally to defective sanitary arrangements. That vaccine may, by the aid of these antiseptics, retain its vitality "for years" we very much doubt. On the other hand, Dr. W. Husband (in his essay on the subject) states that vaccine, properly secured in his capillary tubes, has been known to retain its efficacy for "seven years." Lastly, if a vaccinator desire to render his lymph thinner, and to free it from fibrinous coagula, he has merely to dilute it with glycerine, or with a mixture of glycerine and water, in order to obtain his desire. This last form of commixture, we are informed, is frequently carried out by the public vaccinator in Berlin, who con-

siders that by this means he renders his vaccine lymph more pure.—*Brit. Med. Journ.*, April 22, 1882.

APHTHOUS VULVITIS.—PROF. PARROT treats this affection, when occurring in young infants, by painting the vulva each day with a thick layer of iodoform, a small amount of charpie being inserted between the labiæ to prevent their adherence. After the first application the ulcerations begin to improve.—*Union Méd.*, March 16, 1882.

TREATMENT OF CANCER OF THE UTERUS.—DR. W. H. BAKER has recently described a method of operation for cancer of the uterus which unites the advantages of several methods while discarding their objectionable features. If the case be suitable for operation and the disease is limited to parts which can be entirely removed, the patient being etherized and placed in the Sims' position, the cervix is seized with the volcellum forceps and dragged down as nearly to the outlet as possible. The portio vaginalis is then cut into anteriorly with the scissors, and the supravaginal cervix anteriorly is separated from the bladder with the scissors, aided by the forefinger in tearing the tissues.

The same incision is then made into the vagina posteriorly, and the supravaginal cervix separated from the peritoneum up to the level of the internal os uteri. The anterior and posterior incisions being now connected by lateral ones, and the supravaginal cervix separated on the sides in the same manner as was done in front and behind, the uterotome is substituted for the scissors, and a funnel-shaped portion of the body of the uterus cut out. The actual cautery, at a red heat, is then applied to the whole denuded surface.

The advantages claimed for this method of operation are:

1. More of the uterus can be removed than by any other previously described method where any of it is left.

2. All subsequent disturbance of the patient for the changing or removal of dressings, or for examination of the parts, is unnecessary until complete convalescence is established.

3. The operation is less severe, and consequently accompanied by less danger, than any of those for the removal of the whole organ.

4. The steps of its performance are more simple and easy than in those operations where the total extirpation of the organ is practised. It is, therefore, more practicable for the general surgeon.

5. The length of respite from the disease is greater than in any cases known where the entire uterus has been removed.

In review, he presents the following points:

1. In all uterine cases, do not neglect to remove all sources of local irritation, especially lacerations or frictions of the cervix uteri with eversion.

2. Make an early specular examination of all cases presenting any of the rational signs of cancer.

3. In all doubtful cases make the diagnosis positive, if possible, by a microscopical examination of a section removed.

4. The diagnosis of cancer established, do not delay the operation, which must be thorough, removing if possible every portion of the disease, though it be necessary to open the peritoneum or the bladder to accomplish it.

5. Submit the portions removed to the microscope to be absolutely sure that all the diseased tissue has been cut away.

6. When necessary to remove any part of the cervix, remove the whole, infra- and supra-vaginal.

7. Make a specular examination of all cases operated on, every month or two for some years; and if any reappearance of the disease be discovered, do not delay the use of the sharp curette and the thermo-cautery.

8. Do not attempt a radical operation where there is evidence that the disease has been constitutional from the start, or where it has become so by a too long delay of its primary performance.—*Amer. Journ. of Obstet.*, April, 1882.

CASE OF FARCY.—MR. STANLEY BOYD, at the meeting of the Pathological Society of London held April 22, 1882, exhibited some microscopic specimens showing the cutaneous changes in farcy. The patient had been a stableman, aged eighteen, and some of the horses he served were glandered. On August 1, he experienced rigors, joint pains, and great *malaise;* a week later, an abscess formed on the head of the left fibula; on August 18, the left eye began to swell and became closed. When admitted into University College Hospital, on August 23, there was a large sloughy ulcer on the left leg where the abscess had been; there were a few pustules on the right cheek, an abscess over the wrist, and several circumscribed red patches on the limbs; the left eye was much projected, the whole left temporal fossa was swollen, but no pus could be obtained in the orbit or fossa by the aspirator. The temperature ranged from 101° to 103°, and he was delirious. The pustular rash spread rapidly, and the contents of the pustules became bloody; there was no discharge from the anterior nares, but there was frequent expectoration of a sanio-purulent fluid. Before death, which occurred on the twenty-sixth day of the disease, the right eyelids began to swell, the left cornea lost its polish, the respirations rose to 44, and he became semi-comatose; the temperature rose to 108° Fahr. two hours and a half before he died. At the post-mortem examination there was purulent inflammation of both ankles and knees, and among the deep fibres of the temporal muscle on the left side, and among the muscles of the orbit; in the lungs were numerous abscesses, varying in size from a millet-seed to a filbert; on the upper surface of the liver was an abscess the size of an orange; the kidneys were in a condition of cloudy swelling; a few pustules were found about the pharynx, near the orifice of the larynx. Mr. Boyd remarked that the accounts given in the text-books of the microscopical anatomy of farcy buds were unsatisfactory; he believed the pustules were really small abscesses in the superficial layer of the skin, and differed from the small-pox pustules, in which the effusion occurred into the rete Malpighii, destruction of the papillæ, if it occurred, being secondary.—*Med. Times and Gaz.*, April 22, 1882.

THE THERAPEUTIC ACTION OF ZINC.—DR. TESTA draws the following conclusions from his experiments made with a twenty per cent. solution of sulphate of zinc injected hypodermically:

1. Zinc possesses a marked action on the heart; it diminishes the force of cardiac contraction and reduces blood pressure. It then causes an increase in blood pressure by direct action on the blood-vessels, causing their contraction.

2. Zinc acts on the intra-cardiac termination of the pneumogastric nerve; and,

3. Causes arrest of the heart in diastole.

4. It diminishes peripheral sensibility up to complete anæsthesia, and causes motor paralysis.

5. Zinc reduces the excitability of the nervous system, and is indicated in convulsive neuropathies; it also reduces utero-ovarian hyperæmia, and is indicated in hysteria.

6. It is also indicated in nervous palpitations.—*Bull. Gén. de Thér.*, Feb. 15, 1882.

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THE BACILLUS TUBERCULOSIS THE CAUSE OF TUBERCLE.

THE important investigations of KOCH on the bacillus tuberculosis, which we had the pleasure of laying before our readers in this country in advance of any other journal, are attracting considerable attention in professional and lay circles. The following further details of these studies will be read with interest.

In a careful microscopical examination of tubercular organs of man and the lower animals, Koch says he has never failed to observe in large quantity minute rod-like organisms embedded in the tubercular matter. In order to prove that it is these organisms which constitute the contagium of tubercle, and that it is not an unorganized virus present with the organisms in the tubercular mass, he cultivated the *bacilli* artificially and through several successive generations. This he accomplished in the usual manner, by taking a small particle of a tubercular human lung and placing it in a fluid suitable for the growth of the *bacilli*. The proper composition of the culture fluid for this form of bacillus was not attained without some difficulty; and it was also found that the *bacillus* grew and was reproduced only at a temperature of from 84° to 104° F., thus differing from the *bacillus anthracis*, which can be propagated at the ordinary temperature of the atmosphere. A drop of the fluid in which the tubercular *bacilli* had been allowed to multiply was next transferred to a new portion of the culture fluid, and the bacilli again allowed to develop. A drop of this second fluid was, after some time, mixed with a third portion of culture fluid, and once more the bacilli were permitted to multiply. This was repeated as often as was desired. Koch employed from the fifth to the eighth generation of bacilli, freed in this manner from any unorganized virus with which they might have been originally associated, and injected them into the peritoneal sac or into the aqueous humour of a large number of animals. In one instance in which four out of six healthy guinea-pigs were inoculated with the fifth artificially propagated generation of bacilli from a tubercular human lung, tubercular disease of a severe character set in in all the four inoculated guinea-pigs, while the remaining two continued perfectly healthy. In the infected animals, the spleen, liver, and lungs were found studded with tubercles. Several experiments of a similar kind were made with other animals, and with differently derived tubercular *bacilli*, and invariably with the same result. The inoculated animals suffered and sometimes died from tubercular disease, while the uninoculated remained healthy. Control experiments were made by injecting serum into the aqueous humour of the eye, instead of injecting the fluid containing the *bacilli*, but the former were never followed by tubercular deposits in any part of the body of the animal.

Koch has also examined for *bacilli* the expectoration of people suffering from pulmonary phthisis, and has found them in great abundance. Such a sputum, when injected into the circulation of an animal, quickly produced tubercular disease. The expectoration, on the other hand, of non-phthisical individuals contained no bacilli, and did not injure the health of an animal inoculated with it. Another point of considerable interest for the practitioner is, that the bacilli do not lose their vitality when dried; for phthisical sputum which had been kept dry for two, four, or eight weeks, was as capable as ever of producing tubercle in animals into which it had been injected. Koch's observations are, therefore, of the greatest value; and with the precise knowledge of the contagium of tubercle which he has placed at our disposal, if fully confirmed, we will be warranted in believing that we are within measureable distance of preventing and arresting one of the most fatal maladies to which the human race is subject.

Other *bacilli* succumb to the toxic action of many of the antiseptics; the bacilli of tubercle will doubtless prove no exception. The main difficulty will lie with the impermeability of the non-vascular tubercular nodule, in which the bacilli are embedded, to the antiseptics. With a sufficiently volatile and diffusive antiseptic this difficulty may be overcome, and tubercle be placed among the more curable diseases.

In the *Centralblatt f. d. Med. Wissen.*, April 15, which has just come to hand, PROF. BAUMGARTEN,

of Königsberg, claims, after two years of fruitless study, to have at length succeeded in detecting innumerable masses of genuine rod bacteria, not only in the centre, but also in the periphery of tubercular nodules produced in animals by inoculation of tuberculous matter, and in cases of human tuberculosis of the pleura and pericardium. In 1880, in the *Berliner klin. Wochen.*, he suggested that tuberculosis was due to a parasitic organism, but that he had not yet been able, by actual inspection, to verify his opinion.

Baumgarten dates his communication April 3—Koch's paper having appeared on March 30—and states that, two weeks before Koch's paper was published, he had already demonstrated the existence of the bacterium of tuberculosis.

His methods differ from those of Koch, and his description of the organisms is not identical, but the two accounts sufficiently coincide to render it probable that the same object is referred to, and the independence of the methods and similarity of results serve to render the remarkable observations of both Koch and Baumgarten worthy of greater confidence.

These researches are already meeting with varied criticism. The *Lancet*, in the issue of April 22, devotes an editorial to Koch's discovery of the specific parasite of tubercle. In the course of this article Koch's researches are spoken of with the utmost respect, and are characterized as having been "conducted with admirable care."

Another London contemporary of the same date, *The Medical Times and Gazette*, casts an abundance of cold water on these researches, ridicules their results and discredits the methods employed in staining and in the process of "culture."

Prof. Tyndall, in a letter to the *London Times*, calls the attention of the English scientific public to Koch's researches. He praises, in terms which may be considered even extravagant, the remarkable achievement.

The time has not yet come for a definite statement of the reality of the observations, or of the genuineness of the discovery. If other observers, pursuing Koch's method of staining, arrive at the same results; if the parasite thus detected shall be successfully cultivated; if inoculation of the parasite shall produce tuberculosis, the discovery will be confirmed at all points, and take its place amongst the most remarkable in medical science.

THE DUTY OF HOSPITAL SURGEONS IN ACCIDENT CASES.

A RECENT case at the Presbyterian Hospital in this city serves very well to illustrate the annoyances and wrongs to which hospital surgeons are often subjected, and suggests a brief discussion of their relations to such patients.

A man who had had both legs crushed at noon, on the Pennsylvania Railroad, some miles out of town, was brought to the hospital. Dr. O. H. Allis, the visiting surgeon, was notified by the surgical interne, at 5 P. M. on his arrival, and from the note he learned that there was no hæmorrhage or other imminent danger. The rule of the hospital is, that no capital operation shall be done, save in emergencies, without a consultation of the visiting staff. Accordingly, Dr. Allis called such a consultation for 8.30 P. M., the earliest practicable moment. At that hour the consultation was held. The man had reacted only partially, his pulse being feeble and intermittent, and his sleep profound from the administration of morphia, of which it seems that from four to six grains had been given(!) before his arrival, by the physicians that brought him to the hospital. Evidently it had been imperfectly absorbed, for, although so well narcotized it was deemed necessary to give him digitalis and the thirtieth of a grain of atropia, he was not absolutely poisoned. In view of the nature of the accident, the time that had passed, and his semi-unconscious condition, the surgeons decided to operate rather than to wait for full reaction. Double amputation was therefore done at once; as the patient was fully impressed by the morphia, only a trifling amount of ether was administered, and this with great caution. There was no loss of blood and apparently no additional shock. Dr. Allis stayed with him till midnight. He died at 3 A.M. An attempt was made at the Coroner's inquest to show neglect, by the allegation that immediate amputation, on his arrival, might have averted the fatal issue. Any surgeon of experience will instantly see that to amputate both legs of a man who had been shaken up by a rail-road and cobble-stone ride of some hours, immediately on his arrival, would be simply to kill the patient. The question would rather be, whether it would not have been better either to postpone the operation until full reaction and recovery from the overdose of morphia, or possibly even to let him die without any operative interference whatever.

Now note the following facts. A gentleman of experience, skill, and reputation, who receives no salary whatever for his services, is called late in the day, gives up any and all engagements, or pleasures, or duties to his family, his friends, his other patients, or himself, spends his evening up to midnight in the service of an entire stranger, oftentimes (though not in this case) a worthless tramp, deprives himself of rest until long past midnight, makes a serious draft on his physical resources, with three or four of his professional brethren, who also make similar sacrifices of time, and ease, and sleep, he uses his best judgment, the result of years of accumulated

experience; and all for what? To be compelled to leave his private business to attend the Coroner's inquest, to be harassed and worried by the false assertion that he had neglected a patient, and even mayhap had caused his death; and to have all this commented upon the next morning at ten thousand breakfast tables, to the prejudice of his fame and fortune for years afterwards.

The community should understand that in many, nay in most, cases it is better to wait till partial or complete reaction has come on before any operation is done; that delay for some hours, often till the next day, is the wisest thing to do, that every hospital has resident doctors of good judgment, who will arrest bleeding, change the clothing if need be, administer proper food and stimulants, give the patient rest and quiet in order to favor reaction, in a word, do just what he needs. And, moreover, in view of these facts, it is neither reasonable nor just to expect that overworked and unpaid men of the highest reputation and skill should be compelled instantly to drop all their other duties and other patients and attend to this one alone, one who meanwhile is well cared for, and who will probably be the better for rest and time. If such constant exactions are to be made on the time and strength of hospital surgeons, the public must not expect that the best men can be had. They are too busy and too much sought after to drop everything at every call. Less busy second-rate men must be selected for the post, and if so, it need not be said that the patients will be in the end worse off with a Jones or a Brown, rather than with a Gross or an Agnew, even if Jones or Brown can go on the instant, and Agnew and Gross cannot always do so.

Moreover, it must not be forgotten that private patients have rights. True they do not make the stir that a hospital patient can before a board of managers and in the newspapers. But none the less must they be properly attended to. Even if they do pay, they must not be neglected in favor of charity patients.

We would on no account be understood as underrating the value of life or of comfort to hospital patients; they deserve the best care we can justly give them. But we assert that they do not demand the same quick attention that private patients do, inasmuch as they have skilled physicians and nurses instantly at hand, as private patients have not; and that neither the necessities of the case, nor the welfare of the patient, neither justice to the surgeon, nor to his private patients, demand that he shall sacrifice everything else the instant he is called.

HISTOZYME.

UNDER the above title, PROF. SCHMIEDEBERG describes, *Archiv für experimentelle Pathologie und Pharmacologie*, Vol. xiv. p. 379, *Ueber Spaltungen und Synthesen im Thierkörper*, a ferment which he supposes to exercise an important function in normal nutrition, decomposing the principal nitrogenous compounds of the tissues. He further concludes that this ferment, when present in excessive quantity, excites a febrile condition. He finds, on injecting a solution of histozyme into the blood of dogs, it causes a decided fever, with the usual systemic state and diarrhœa.

The investigations leading to this interesting and important discovery extended over several years. The first step consisted in the discovery by Schmiedeberg and Bunge, several years ago, that of all the organs of the dog, the kidneys only had the power to form hippuric acid from glycocoll and benzoic acid. More recently Schmiedeberg has ascertained that the kidneys of the hog possessed in a high degree the power to oxidize benzylamine and transform it into benzoic acid. The contradiction which has seemed to exist in the observed facts, and which consists in the power that the same organ has exercised to decompose certain chemical bodies, and construct others synthetically, led him to the conclusion that there must be a soluble ferment in the kidneys capable of effecting these decompositions. In fact, Schmiedeberg finally came to prepare this soluble ferment which he found in considerable quantity in the blood of the hog and also in the kidneys of the same animal, and in the liver of the dog. The ferment is prepared by grinding up the organs and extracting with glycerine or water by the aid of pressure. The filtered extract is precipitated by the ninth or tenth part of its volume of absolute alcohol, and the precipitate is thrown on a filter and dried over sulphuric acid. The aqueous solution of the ferment thus prepared is very active, and rapidly decomposes great quantities of hippuric acid. That it possesses pyrogenic properties, is an important fact. It may prove hereafter that histozyme in excess is the great factor in the production of fever.

"THE CURSE OF CHLORAL."

THE *Lancet* of April 22, under the above caption, alludes to the sad effect of chloral-taking on the artist-poet, Dante Rossetti. Suffering from that "curse of the artistic and poetic temperament, insomnia," he began to get the relief which chloral brings, only to experience greater evils in a horrible nervousness, irritability, and depression of the vegetative functions. The peculiar sensitiveness exhibited by Rossetti in his later years; his gradual withdrawal from the social circle which his presence formerly delighted, and his entire surrender to melancholy, were, unhappily, the results of chloral sleep. Physicians, instructed by such sad experi-

ences, should be discreet in prescribing chloral for nervous and literary persons suffering from wakefulness. This symptom signifies some violated hygienic principle, some remediable bodily derangement, which, corrected, natural sleep would follow. If the brain is once drowned in the chloral sleep, the remedy seems so grateful that the organ refuses to be comforted in any other way when the horrible insomnia asserts itself again. It is not alone the habit of forcing sleep by the narcotic which is so much to be dreaded. Chloral injures the cells of the gray matter of the cerebrum, weakens the heart, sets up structural changes in the liver, and impairs the nutrition generally. It is sad enough to witness in these cases the decay of the bodily powers, but more lamentable are the psychical derangements which render the incarceration of so many of these subjects in asylums finally necessary.

Especially cautious in prescribing chloral should be American physicians, whose clients, immersed in the ceaseless activity of life here, are peculiarly apt to suffer from insomnia. To them, an agent which forces sleep, despite the conditions inducing wakefulness, is peculiarly grateful. In making haste to be rich, all other considerations must yield. The time for the necessary repose cannot be given; the modifications required in the daily life for the healthful performance of the cerebral functions are too irksome; the relief must be given without interference with the daily methods, and, therefore, how opportune the action of chloral. It can scarcely surprise us that, under such circumstances, the physician, despairing of better methods, falls in with the use of an agent which postpones troublesome questions to a future time. Our asylum statistics, showing the baleful effects of chloral, indicate at the same time the need of less questionable ways of attacking that restlessness of the mind, insomnia and irritability, which are preludes to psychical derangements.

THE ASSASSINATION OF LORD FREDERICK CAVENDISH.

THE shameful murder of Lord Frederick Cavendish and Mr. Burke, which has aroused the just indignation of the civilized world, is, in all probability, only another instance added to the many with which history abounds of the contagiousness, or rather, the epidemic character, of crime.

It seems evident from the circumstances of the case, that no personal motive, either of greed or revenge, actuated the assassins, and it must be equally evident to every intelligent observer of recent events, that in the entire range of possible crimes nothing could have more seriously jeopardized the best interests and future fate of Ireland. Indeed, as regards Lord Frederick Cavendish, the selection of a victim, even when viewed from a nihilistic standpoint, was so palpably in opposition to the dictates of common sense, as to indicate the existence of some impelling cause other than those which ordinarily actuate criminals.

Fortunately the absence of reasonable motive is no longer regarded as, in itself, an excuse for crime or as evidence of irresponsibility. It is true that Esquirol says, "the victims of the criminal are those who oppose his desire or his wishes; the victims of the monomaniac are among those who are either indifferent to, or who are the most dear to him;" and that in homicidal mania, "it is difficult to imagine a rational motive for the deed." Both these conditions would seem at first sight to prevail in the present instance, but it would undoubtedly be necessary to adduce other and more convincing testimony as to mental unsoundness, before the horror and detestation with which these guilty wretches are regarded, or the punishment which, it is to be hoped will speedily overtake them, are in the slightest degree abated.

The explanation of this shocking assassination will probably be found, however, in the influence which criminal example always has upon certain individuals in every community. Suicide by a peculiar method, or even in a particular locality, is speedily imitated and repeated; a new poison once introduced and made notorious through the daily press, is soon heard of as the occasional cause of death over an entire country; Taylor records the fact that immediately after the first suicide took place from the monument near London bridge, a second and a third followed. During the French Revolution, parricide, fratricide, and other unnatural crimes, became exceedingly frequent; acts of incendiarism have repeatedly been known to lead to the commission of arson in the same or adjoining districts; in fact, instances of the rapid succession of crimes of almost any special character might be multiplied indefinitely. Of late years the particular development of this extraordinary form of criminality, which has been of the greatest interest and importance to the world at large, has been found in various attempts upon the lives of conspicuous members of the governing class. In most of these, whatever principles may have seemed to be involved, and whatever acts of injustice or oppression may have preceded the crime, the actual perpetrator of the deed has been in no way interested in the removal of the victim; and in several instances, as in the cases of Lincoln, of Garfield, and in this last most deplorable occurrence, the person destroyed was one whose life would manifestly have been of the greatest value, not only to his country and to civilization, but even to the very class to which his murderers belonged.

Sir J. Stephen has stated that in such cases "experience has clearly shown that there is no check so

effectual as the rigorous application of the law," and we sincerely trust that in the present instance this principle will be unhesitatingly applied.

WE would call renewed attention to the fact that the excellent Directory, established by the College of Physicians, will be opened for the convenience of the profession and the public on next Monday, the 15th instant, and in doing so we would urge upon all the importance of its instant and constant use. Already, in fact, though so imperfectly organized, it has supplied a number of nurses. We are informed that a number of calls have been made during the past two weeks for *wet-nurses*, of whom none are as yet registered. We ask especial attention to the fact, as the hot weather will be quickly upon us, during which time the demand for wet-nurses is greatest. Physicians will do a great service, if they will send immediately all the wet-nurses they can to register at the Directory. No registration fee is required of this class of nurses.

THREE weeks have elapsed, and neither the names nor the letters of those "influential men in every part of the country" who have sent "the heartiest endorsements of the course of the *Record* in its advocacy of freedom in consultations" have yet been published. We trust that these names will be no longer withheld from the profession, which is eager to know who of its "influential" members are advocating the New York Code.

SPECIAL ARTICLE.

THE MEDICAL NEWS COMMISSION

ON THE

MANAGEMENT OF VACCINE FARMS AND ON THE PROPAGATION OF BOVINE VIRUS.

(*Continued from p. 499.*)

TRUE ANIMAL VACCINATION,

Or "heifer-transmitted cow-pox vaccination," has been very clearly defined to be "the inoculation of a young selected animal of the bovine species, from an *original spontaneous case of cow-pox;* from this others, and so on in continuous and endless series, as a source, and the *only source*, of virus to be used for the protection of the human race from variolous disease."[1] Virus obtained from this source only can be said to be strictly and exclusively animal. As regards the origin of the native vaccine disease, several theories have been advanced, but the question as yet has not been definitely determined. Though full of scientific interest as this question is, it need not further concern us in inquiring into the propagation of bovine virus, our only subject of inquiry here.

[1] Report on Animal Vaccination, American Medical Association, 1877. The italics are our own.

When an original stock of virus of the highest excellence, like the Beaugency, is discovered it should be perpetuated by animal vaccination with almost religious care; and to do this it is necessary that it should be placed in the hands of careful and properly accomplished operators. The frequent occurrence of severe inflammation, ulceration, and even erysipelas, at the seat of insertion of bovine virus, clearly indicate that much of the virus in use has not been propagated with sufficient care and skill, for such results are not produced by pure animal lymph. Dr. Martin says, "When I first began to use the animal vaccine it was with fear and trembling, from my apprehension of undue violence, and, above all, of erysipelatous complication. The absolute absence of erysipelas as a complication of animal vaccination was, therefore, far from expected." Certain it is, that the normal products of the animal do not give rise to such results, for butchers are not specially subject to erysipelatous and other forms of inflammation around wounds and sores. How, then, can we account for these evil results, which are by far too common to be denied? First, it is not improbable that some producers are using as vaccinifers, old and, perhaps, tuberculous cows. We are told that old cows can be made to yield lymph very abundantly, and that vaccinations performed with virus obtained from them are very liable to be attended by excessive inflammatory action. In times of extraordinary demand for vaccine virus, such as we have just experienced, it is altogether probable that ignorant and unprincipled producers, who follow the specialty as a mere trade, make use of animals which will yield the greatest possible quantity of virus, having no regard for its quality, except that it must be sure to "take," *i. e.*, make a sore arm. Again, if the animal after inoculation be not properly cared for, and be allowed to lie down in wet and filth, the vesicles are very apt to be associated with an inordinate degree of inflammation. Virus collected under such circumstances is very liable to contain inflammatory products, and must frequently give rise to undesirable results in the human subject. The danger of conveying inflammatory products by vaccine virus was fully appreciated by Jenner, who, observing the frequent occurrence of spurious vaccinia from this cause, was led to enunciate what has ever since been called the "golden rule," viz., "*never to take the virus from a vaccine pustule for the purpose of inoculation after the efflorescence is formed around it.*" So fully impressed was Jenner with the importance of this rule, that he subsequently made the injunction still more emphatic by saying, "*I wish this efflorescence to be considered as a sacred boundary, over which the lancet should never pass.*"

METHOD OF COLLECTING THE VIRUS.

It is obvious, therefore, that it is not only important that the animals should be kept in clean and well-ventilated stables, and the inoculated surface sedulously guarded against the irritating influence of decomposing stable *débris*, but that the virus should be collected at the proper time, and particularly before the vesicles have reached too late a

stage of development. It is very probably true, as elsewhere stated, that up to a certain stage "the unbroken vesicle contains no superadded products, and will convey cow-pox uncomplicated. Later, when granular and pus cells appear, and above all, when the ruptured vesicle becomes the seat of septic and other bacteria, the virus cannot be sent out with the same confidence."[1]

The "patented cones," and all other vaccination compounds, appear to be more liable to be followed by phlegmonous inflammation and erysipelas than when pure lymph is used. Besides the large number of cases in which serious complications of this kind followed the use of "cones" at Thomasville, Ga., we have learned of some very similar results following their use in this city, in the hands of at least two of the public vaccinators. We have also been informed quite recently that Chief Engineer Whittaker, U. S. N., who died March 10, 1881, from erysipelas following vaccination, was vaccinated from one of the "patented cones." It is proper to state, however, in this connection, that Surgeon Kershner, in charge of the case, does not believe that the erysipelas was caused by the vaccinnation, because the latter had passed the stage of inflammation before the former set in.

There are other forms of so-called preserved vaccine made use of in some other countries, which have also given rise to serious accidents. We refer to the use of "pustules" which have been cut out of the animal. According to Warlomont's description, "The little tumor (vesicle) is seized with a fold of skin; it is excised by dividing it with a bistoury slightly curved on the flat; it is placed between two thick glasses, one having a small concavity for its reception, and is thus sent out to greater or less distances. *A priori*, this method, no longer in use, except in Italy, is already practically condemned; the occurrence at San Quireio gave it a fatal blow. Thirty-eight children, vaccinated in the heat of summer, by means of similar fragments of flesh, which, by the testimony of the vaccinators themselves, exhaled an abnormal odor, were seized with eclampsia and extensive phlegmonous inflammations, and many of them died." These results tended to bring this practice into disrepute; "but the method, which really consists in employing, under another form, the parenchyma of the pustules, still enjoys a certain amount of favor under the name of Milanese vaccine." The following is given as Dr. Colonel Saggini's description of the latter preparation: "In the first place, I should inform you that at Milan they always use full-grown animals, mostly cows; for the committee cannot procure calves, veal being excluded from Milanese dinner-tables. M. Nobli excises the pustules between the sixth and seventh days. He cuts through the thickness of the skin as far as the subcutaneous cellular tissue, to give greater consistence to the fragment; then fixes it by one end with a pin on to a small piece of wood, with the bleeding surface downwards. He then scrapes the entire pustule with a knife, until he has removed all the detritus; then breaks up all the parenchyma with the same knife, and adds some drops of glycerine. The mixture thus made is preserved in close vessels, in a refrigerator, and sold. It has the appearance of a soft, brown paste." Dr. Warlomont has tried this preparation, with, as we might suppose, very unfavorable results. He says, "Whether in the calf or in the infant, the insertion of this matter, rich in animal particles, nearly always gives rise to phlegmonous and eczematous pustules. Inexperienced vaccinators think these to be 'splendid pustules;' we consider them to be of bad quality, and their evolution is frequently accompanied by inflammatory complications."

The Milanese plan has been tried with this improvement—the vesicles have been raised on the pincers and scraped, without their excision; but the undesirable results from the virus obtained by this improved method have not been materially different. The plan offers to the merely mercenary producer very strong temptations, for it affords very great facility of collecting virus, and is thoroughly economical, utilizing, as it does, the entire parenchyma of the vesicle. All these faulty methods of collecting and preserving bovine virus cannot be too strongly condemned, since they tend to bring animal vaccination unjustly into disrepute. Nothing is easier than to obtain virus of the highest degree of excellence, without having recourse to the "Roman pustules," "Milanese marmalade," or the "patented cones."

(To be continued.)

[1] National Board of Health Bulletin, April 1, 1882.

REVIEWS.

ELEMENTS OF PHARMACY, MATERIA MEDICA, AND THERAPEUTICS. By WILLIAM WHITLA, M.D., etc. 12mo. pp. 524. London: Henry Renshaw, 1882.

THIS is a useful book. Within a convenient compass it gives a very good account of pharmaceutical manipulations, of the materia medica, and of therapeutics. The pharmacy is sufficient for the medical student and practitioner, and the therapeutics embrace the modern views. Thirty pages are devoted to prescription writing. Printed in red ink are six pages containing the "non-official remedies." On the whole the matter is fairly accurate, but we have noted some errors. Thus, on page 86, it is stated "extractum colocynthidis compositum is so called because the colocynth pulp ordered in it is first made into an extract with proof spirit, and the insoluble part rejected." *Duborsea*, on page 220, is printed for Duboisia.

NEUROLOGISCHES CENTRALBLATT. UEBERSICHT DER LEISTUNGEN AUF DEM GEBIETE DER ANATOMIE, PHYSIOLOGIE, PATHOLOGIE UND THERAPIE DES NERVENSYSTEMS, EINSCHLIESSLICH DER GEISTESKRANKHEITEN. Herausgegeben von DR. E. MENDEL, Privatdocent an der Universität Berlin.

THE NEUROLOGICAL CENTRALBLATT, A REVIEW OF THE WORK DONE IN THE DOMAIN OF THE ANATOMY, PHYSIOLOGY, PATHOLOGY AND THERAPY OF THE NERVOUS SYSTEM, INCLUDING MENTAL DISEASES. Edited by DR. E. MENDEL, etc.

THE first number of this new candidate for professional favor has just been received. It is published at

Leipsig by Veit & Co., at the price of 12 marks a year. Two numbers are issued monthly.

The first number contains twenty-four pages, and has two original communications, the first from Prof. Dr. A. Eulenburg, of Greifswald, well known in neurological literature, and the other from Dr. Th. Rumpf, of Düsseldorf. Under the division *Referate*, contributions to contemporary literature in the several departments of Anatomy, Physiology, Pathology, and Therapy, and of Mental Diseases, are carefully analyzed. In this review, we find Italian, French, and English papers noticed more or less fully, but the bulk of it is made up from German sources. As a whole this is a promising venture in the wide field of neurological medicine, and as such we commend it to the attention of our readers interested in this department of knowledge.

SOCIETY PROCEEDINGS.

SOUTH CAROLINA MEDICAL ASSOCIATION.

Thirty-Second Annual Session, held at Spartanburg, April 25 and 26, 1882.

(Specially reported for THE MEDICAL NEWS.)

THE thirty-second annual meeting of the South Carolina Medical Association was held at the Merchants' Hotel, in Spartanburg, April 25th and 26th, the President, DR. F. L. PARKER, of Charleston, in the chair. The meeting was well attended, and twenty-six new members were added to the roll.

The President delivered the Annual Address, and chose for his subject

PRIMARY AND SECONDARY REUNION OF DIVIDED NERVES BY SUTURE.

Referring to a case of nerve reunion by suture, which he had exhibited at the last meeting of the Association, Dr. Parker went on to say that, though he knew such operations from the exceptional nature of the injury were very rare, yet he was under the impression, at the time he operated, that he had seen reports in the journals of a number of similar cases, and had so stated before the Association, but erroneously. He had found the same impression existed among other surgeons, but yet no one could tell him where to find these cases. Reports of cases of nerve-stretching, or cases of subsequent restoration of nerve function some months or years after the injury, or cases of nerve resection for neuralgia, with subsequent reunion, had evidently been confused with cases of the reunion of divided nerve trunks by primary or secondary operations, only a few cases of which have been reported, most of them in England, but none in this country, so far as he had been able to ascertain, previous to the one referred to above.

Dr. Parker then proceeded to give the statistics of all the cases of this operation which he had been able to find on record, of which the following is a summary. Twenty-three cases in all were reported of nerve reunion; twenty-one by suture, and two from simple apposition. Of these, twelve were successful, two partially successful (sensation, but not motion, restored), four incomplete, and five unsuccessful.

Of the twenty-one cases of reunion by suture, six were primary, and fifteen secondary. Of the six primary, two were successful, two were incomplete, and two unsuccessful. Of the fifteen secondary, six were successful, three incomplete, and six unsuccessful.

In five cases the sutures were passed through the sheath, in three through the substance of the nerve, and in thirteen it is not stated how they were passed.

The secondary operations were performed from one to nine months after the injury, and in one case two years after, but in the last unsuccessfully.

Failure in cases of secondary operation depends upon several contingencies, which cannot be foretold prior to exposing the nerve. Among these may be mentioned—

1st. The degree of atrophy of one or both ends, particularly the distal end, preventing their adequate adjustment.

2d. The length and size of the neuroma on one or both ends, requiring a sacrifice of nerve tissue, and complicating apposition by forced stretching or wide dissection.

3d. Atrophy of the neurilemma, forcing the operator to suture through the substance.

4th. Neuritis or sclerosis of the distal or central end.

5th. Mutilation of the nerve ends after resection often unavoidable.

6th. The manner of healing of the wound and the degree of suppuration.

These, and perhaps other, considerations are important in estimating the chances of success. Dr. Parker then gave the history of his own case as follows:

CASE 1.—"Paralysis of extensor muscles of hand and forearm, from division of the posterior interosseous nerve; complete recovery by resection and reunion of ends of divided nerve with carbolized catgut sutures."[1] This case was reported last year, but is reinserted here to complete the list of such cases, and to call attention to certain points in its history of interest in connection with the process of cure.

The age of the patient was fourteen years. There was complete paralysis of all muscles supplied by the posterior interosseous nerve and its branches. Sensation was normal over the back of the arm and hand. The temperature was diminished, evident to the touch. The operation was performed three months after the injury. The ends of the nerve were united by two catgut sutures through the *substance* of the nerve. A superficial abscess formed in the track of the wound. Electricity was applied twenty-one days after the operation, with muscular reaction. On the fifty-first day the patient could extend the wrist, and in about four months he had regained the use of the wrist and all his fingers, except the thumb, and at the end of seven months there was complete restoration of all the functions of the arm and hand, and one was as strong as the other. Examined last month, the functions of the arm and hand were found to be perfect in every respect, but a keloid growth had formed in the cicatrix of the wound, and was painful when struck. There was also a similar growth in the cicatrix of a superficial wound on the other arm, which seemed to show a constitutional predisposition in the patient to keloid. No interference was deemed necessary.

CASE 2.—John C., of Abbeville, S. C., aged 18, robust, was cut with a knife on the outer border of the attachment of the deltoid muscle, December 11, 1880, followed by immediate paralysis of sensation and motion in the regions supplied by the musculo-spiral nerve and its branches; the wrist dropped and the fingers were flexed. The wound was dressed, the arm flexed, and put in a sling.

July 15, 1881, the patient first seen by Dr. Parker. Paralysis of sensation and motion had continued; there was wasting and flattening of the arm, forearm, and hand. On applying electricity, sensation and motion were found to be absent throughout the distribution of the musculo-spiral nerve. The temperature of the hand and wrist was much diminished, and capillary stagnation was marked over these parts. At the centre of the cicatrix the nerve was very sensitive to pressure. Electricity was used from July 15th to 21st without any improvement. July 22d, seven months

[1] See Transactions of South Carolina Medical Association for 1881.

and ten days after the injury, an incision was made three and a half inches long, afterwards increased to five and a half, and the nerve exposed on the belly of the triceps muscle near the junction of the middle and outer heads. The ends were found to be united by a large, olive-shaped, hard neuroma, three-quarters of an inch long, of a red color, which bulged on the lower side of the nerve. The upper end was of normal size, but more flattened than usual; the lower end was atrophied to one-half the natural size. The neuroma was excised along with a small portion of nerve-tissue on either side, and the upper and lower ends were dissected gently from the surrounding cellular tissue throughout the extent of the wound, in order to avoid stretching in bringing the ends together. The separated ends were then united by two fine catgut sutures, but, owing to the difference of their diameters, the cut surface of the upper one could not be brought in apposition throughout its whole extent with that of the lower, but necessarily overlapped it. The use of Esmarch's bandage greatly facilitated the operation. The wound having been brought together with silver sutures, was dressed antiseptically, and the arm was supported on pillows in the extended position, so as to avoid tension on the nerve. The next day the patient complained of pain in the wrist from its dropping; a splint with a ball for the palm was applied, which gave relief. The wound healed by first intention. August 5th, electricity was applied, with response in both sensation and motion, in the extensors of the fingers, and sensation in the thumb, but no motion; no motion of extensors of the wrist. The nerve had evidently united. He was ordered friction with soap liniment twice a day, and electricity was applied for fifteen minutes daily, with a gentle current.

Aug. 10th (twenty-fourth day), the extensors of the fingers and thumb were gradually improving; he could extend his fingers half way, and had considerable motion in the extensors of the thumb. The wrist was not so flexed, and the pain over the joint had lessened. He had no power yet over the extensors of the wrist, but slight muscular contractions in all the extensor muscles were evident; the pronators were also beginning to act. The splint supporting the hand was removed on this day, but was reapplied the next, as it was more comfortable. In both these cases the patient complained more of pain from the dropping of the wrist after the operation than before, perhaps from the tension of the newly-united nerve.

Aug. 21st (thirty-fifth day). The treatment by electricity, friction, and the splint having been kept up, there had been daily slight improvement. Sensation was partly restored throughout the radial distribution; the fingers could be extended about half way; the thumb was not so far advanced, only the extensor secundi internodii acting, with motion in the last phalanx. The wrist was nearly straight, probably from the support, and though the extensors (the radial more than the ulnar) responded feebly to electricity, there was no voluntary muscular motion in them.

The patient at this time, in spite of protest, was ordered home by his father, and had not been seen since by Dr. Parker. He had heard, however, that while sensation was restored, and there was good motion in the thumb and fingers, there had been no improvement in the voluntary movements of the wrist. The case can only be reported, therefore, as partially successful.[1]

A careful study of this case will probably throw much light upon our future procedure in similar cases. For instance, the question will arise, How long must we wait for nature to restore the union and function of nerves. The best authorities state that generally a year elapses in cases of secondary reunion of nerves before any restoration of function is observed. Yet in the case reported, after a lapse of seven months from the date of injury, the distal end of the nerve was atrophied to nearly one-half its original size. What would have been its condition after twelve months? Would it not then be better, if the evidences of primary reunion are not satisfactory in two weeks or a month, to act promptly, and unite the ends by suture, and thus avoid the certainty of atrophy, with the doubtful possibility of secondary reunion?

Dr. Parker, in his closing remarks, gave some minute directions for performing the operation, with the view of lessening, as much as possible, the disturbance of the nerve elements. He also referred to the bearing of this operation upon the prophylactic treatment of tetanus by division of nerves leading to the wounded part, to be afterwards united by suture.

DR. P. A. WILHITE, of Anderson, read a paper on

COFFEE AND ITS EFFECTS.

Coffee was a stimulant, chiefly of the nervous system, producing wakefulness. It moderately excites the circulation and stimulates the digestive system. If taken in large doses, its after-effects are depressing to the nervous system, equivalent to the previous excitement. It cannot be that a substance so energetic in its action on the human frame is destitute of deleterious properties. The writer is of opinion that strong coffee, used to excess, will promote, if not cause, gout; that its continued use seriously impairs the blood, irritates the kidneys, congests the liver, deranges the nervous system, paralyzes digestion, causing acidity, heartburn, watchfulness, tremor, debility, dejection of spirits, etc., and is also a slow poison. As a rule, men are not so susceptible to it as women.

His attention had been first directed to this subject during our late war. Prior to that he had attended many ladies who were sick and complaining almost all the time of a complication of nervous troubles, and he almost invariably found that to this class of patients belonged those who imagined they could not live without their coffee. But during the war many of them could not procure this life-saving beverage, and yet almost all of them became comparatively healthy and strong before the close of the war. He could cite many instances of such recoveries that had come under his own observation.

POISONING BY CICUTA MACULATA.

DR. J. WM. FOLK read a report of a case of poisoning with the root of this plant, mistaken for angelica. Symptoms: Delirium, cold skin, profuse perspiration; pulse 46, thready and scarcely perceptible; vomiting blood and mucus, countenance haggard and pale, complete prostration. Treatment: Hypodermic injection of morph. sulph., gr. ss; sinapisms, and friction with flannel saturated with hot brandy. Brandy and aromatic spirits of ammonia given internally as soon as the stomach would bear them. Patient recovered consciousness in about an hour, after which he gradually got better.

DR. R. A. KINLOCH, of Charleston, reported a case of

GUNSHOT WOUND OF ABDOMEN TREATED BY OPENING THE CAVITY AND SUTURING THE INTESTINES.

Amos Ray, colored, male, adult; admitted into the City Hospital November 1, 1881; suffering from a wound in the abdomen caused by a Colt's pistol, calibre 32; orifice of entrance midway between umbilicus and pubes, a little to the left of the median line. There

[1] Since the above was written, Dr. Parker has seen his patient, and finds him improving steadily. The extensors of the wrist are now acting, the atrophy is lessening, and the arm becoming round and full. He confidently expects a cure will be effected in about six months more.

was general abdominal pain, and inability to pass water, with symptoms of slight shock. At 7.30 P.M., nine hours and a half after the accident, the patient was examined by Dr. Kinloch. The abdomen was slightly swollen and tender, and pain was complained of at the end of the spinal column just above the anus. An examination per rectum disclosed an orifice in the posterior wall of the gut, corresponding with a depression in the os sacrum. Dr. Kinloch determined upon an operation as offering the best chance under the gloomy prognosis.

At 9 P.M. the operation was performed under carbolic spray and with full antiseptic precautions. The cavity was opened by an incision in the median line from the umbilicus nearly to the pubes. The intestines having been turned out and carefully examined, five perforations were found in the small gut and two in the mesentery; the wound in the rectum could not be discovered. The wounds in the intestines, after their edges had been trimmed with the scissors, were all closed with fine carbolized silk sutures. Two small vessels were ligated. There was considerable blood in the cavity, but very little fecal matter. The cavity was carefully sponged out with a two per cent. carbolized solution, and the abdominal wound closed with silver sutures except at the lower angle, where a rubber drainage tube was inserted. Carbolized oiled lint, several layers of borated absorbent cotton, and a broad bandage completed the dressing. The patient was ordered opium, gr.j, every four hours, hot bottles to the extremities, and pellets of ice to be given ad libitum.

November 2, 9 A.M.—Patient in good spirits, has no pain, but is troubled with hiccough. Pulse strong, 116. Temperature 100.2°. Dressing removed, and abdomen sponged off with carbolized water. Drainage tube replaced by one of larger calibre. Cavity washed out with a two per cent. solution of salicylic acid, and the dressing reapplied. Opium, gr.j, to be given every three hours.

12 M.—Condition unchanged. Asked for nourishment. Allowed a spoonful of milk and lime-water every hour.

6 P.M.—Changed for the worse. Abdomen very tympanitic and weak. Pulse 128, weak. Temperature 100.2°. Cavity washed out again.

11 P.M.—Patient sinking. Pulse 170, scarcely perceptible. Extremities cold, and surface generally bathed in a cold sweat.

3d, 2.15 A.M.—Patient expired.

The *autopsy* revealed five or six perforations of the mesentery and omentum, and four of the intestines, two orifices of entrance and two of exit. All the openings had been closed except one, which had escaped detection. The ball had passed downwards and slightly to the right, entering the rectum just below the recto-vesical fold, traversing the sacro-coccygeal articulation, scaling off a piece of the sacrum, and embedding itself in the glutei muscles, from which it was extracted. There was very little fecal matter in the abdominal cavity, but some bloody serum. The whole mass of the small intestines exhibited signs of acute inflammation, and here and there presented ecchymotic patches.

In the case now presented, the diagnosis of intestinal wound was fully established before operation, as was also the direction and course of the ball. This in part determined him to adopt the active or heroic practice. While it added another to the list of fatal cases under similar treatment, it did not alter his belief in the correctness of the practice in the class of injuries presenting so grave a prognosis, and he looked forward to better results than had been so far obtained. Listerism, and much of the knowledge acquired from ovariotomy, will embolden many surgeons, who up to this time have favored the passive policy in the treatment of intestinal wounds.

From the report, it will be seen that one of the perforations of the intestine was overlooked at the time of the operation, which would be regarded by some as necessarily fatal. He did not think this a legitimate conclusion. Where drainage can be insured, and the cavity washed out, this danger can be successfully met and overcome. His failure to find the wound in the rectum, which he knew to exist, was provided for by the drainage tube. He did not think that an open wound of the intestine was the cause of death. The lateness of the operation, eleven hours after the injury, militated against its success, and the numerous perforations of the gut perhaps rendered it impossible. The patient suffered but little pain after the operation, and the opening of the abdominal cavity seemed to alleviate suffering, if it did not save life.

DR. KINLOCH also read a report of a case of

FRACTURE OF THE SKULL, TREATED BY TREPHINING; DEATH FROM ABSCESS.

He exhibited several interesting pathological specimens, amongst which were the uterus and hypertrophied ovaries removed by operation from a case of fibro-cystic degeneration of these organs.

DR. W. T. C. BATES, of Columbia, reported the following case of

TRAUMATIC TETANUS FROM VACCINATION.

Ben Jones, a mulatto, aged fifteen years, was vaccinated February 9, at my office, at the insertion of the deltoid of the left arm, with carefully selected humanized virus. March 8, one month after vaccination, he was again brought to my office, complaining of a pain in his stomach, and an inability to open his mouth. His body and neck were bent backwards; the muscles of the back and chest, the masseter and internal pterygoid, were in a state of partial rigidity. There was incomplete trismus and some embarrassment of respiration. Here was evidently a case of tetanus. A most careful inquiry into the history of the case, and a searching examination of the body revealed nothing to cause it, except a small healthy looking, painless ulcer at the spot where vaccination had been performed a month before.

The next day the patient was examined by Drs. Talley and Howe. Trismus more pronounced. The case terminated fatally after fifteen days in spite of all treatment. I have thought it proper to report this case, as a matter of professional interest, and because I believed that a formal presentation of it was becoming, after it received the notice of the secular press, and was freely commented upon by non-professionals in this community.

DR. J. R. BRATTON, of Yorkville, reported the following case of

CONGENITAL GANGRENE.

Some years ago, during the war, Mrs. F., about twenty-five years of age, a healthy, well-developed woman, a primipara, was delivered, after a very easy natural labor, of a well-developed female child, healthy in all respects, except the left hand and forearm. Upon the palmar and dorsal aspect of the hand, as well as upon the flexor and extensor surfaces of the arm, about its middle third, were patches of gangrene of the integument and subjacent cellular tissue, irregular in form, and about an inch or more in diameter. Those portions of the skin between the diseased spots on the hand and those on the forearm, and extending up to the middle third of the humerus, were in an erysipelatous condition. The labor was easy, natural, and only of three hours' duration, with no malpresentation, no malposition. My partner, Dr. Barron, a man of skill and long experience,

having requested me to see the child with him, we agreed fully in our diagnosis, and put the child under treatment for gangrene. In a few days, the dark, livid surfaces cleaned off, separating from the adjacent healthy integument, and leaving healthy granulations beneath. After a few weeks, the parts recovered their normal condition, with the exception of a slight atrophy of the hand and arm, some stiffening about the wrist, and flexion of the third and fourth fingers.

On inquiring into the history of the mother, it was found that she used frequently to dress the wounds of soldiers at home on furlough, many of whom suffered from gangrene, and that during her pregnancy, a few months before confinement, she had to dress a very severe wound which had taken on this character.

I submit, whether or not the impressions made upon the mother's mind, through the medium of the nervous system, from association with such character of wounds, could have produced through the same medium, by reflex action, so great a change in the nutritive functions of the parts as to bring about this change.

DR. B. W. TAYLOR, of Columbia, presented a paper on

THE DIAGNOSIS AND TREATMENT OF SERO-PURULENT COLLECTIONS AFTER CHILD-BIRTH.

of which the following is an abstract:

Notwithstanding the advancement that has been made in the treatment of the puerperal state, it is often followed by grave symptoms and fatal results, arising from pelvic inflammations, peritonitis, and cellulitis. There are some points in connection with these affections to which we can best direct attention by a report of the two following cases.

CASE I.—Mrs. P., aged 32, fifth confinement. Previous to this pregnancy had enjoyed the best of health, but during the last three months had suffered occasional attacks of malarial fever, and had complained of some pain in the uterus. She had always been attended by a midwife. On this occasion the midwife, finding little progress made after four hours' suffering, requested me to be called in.

Upon examination I found a rigid os, dilated to about the size of a half dollar, and a posterior position of the occiput. After some hours the rigidity of the os was partly overcome, but the head had made little progress. I delivered with the forceps, proceeding leisurely, to allow the parts time to dilate. The child was born dead. There was a right, lateral laceration of the cervix up to the vaginal junction, which bled freely, but the flow was stopped by the use of hot-water injections; but her pulse remained frequent, the after-pains troublesome, and her general appearance indicated trouble ahead. On the fourth day she had a severe chill, followed by fever and pain in the pelvis. Later she had two more chills followed by sweats, nausea, vomiting, and tympanitic distention of the abdomen from general peritonitis. The lochia having become offensive, the uterus was syringed out three times a day, in addition to the use of vaginal injections. A tumor could now be felt through the abdominal walls, about the size of the uterus in the fourth month of pregnancy, situated in the right broad ligament, and its induration extending down to the cervix. On the 19th day a very offensive, light-yellow, sero-purulent discharge took place, entirely different from the lochia, and evidently not uterine. On examination with a Sims' speculum the discharge could be seen issuing from the laceration of the cervix, at its vaginal junction. A gum elastic catheter was passed through the opening into the tumor, and the sac was washed out and disinfected. The catheter was allowed to remain in, and the nurse was directed to wash out the sac every third hour. Every day the catheter was taken out and cleansed. Notwithstanding this local care and the usual general treatment of such cases the patient died on the twenty-sixth day, of pelvic cellulitis, terminating in general peritonitis, profuse suppuration, and septicæmia.

CASE II., kindly reported by Dr. A. S. Salley.—Mrs. C., aged thirty-three, of fine constitution and previous good health, was taken in labor with her fifth child at 1.30 A.M., December 6. I was requested to see her in consultation at 8 P.M. No progress had been made for several hours. Upon examination, the occiput was found in the hollow of the sacrum. She was now delivered with forceps, and, though the greatest care was used in the delivery, her symptoms, from the completion of labor, were unfavorable. She had several chills, fever, nausea, vomiting, and diarrhœa. On the 12th the uterine discharge was dark colored and offensive, and the uterus was washed out every four hours with a solution of permanganate of potash, On examination, I found an extensive laceration of the cervix on the right side, extending up to the vaginal junction, and cellulitis, which had given rise to a large tumor in the right broad ligament. On the 24th the abscess began to discharge a very offensive, dirty yellow, sero-purulent fluid. With Sims' speculum the discharge could be plainly seen issuing from the laceration of the cervix at its junction with the vagina. A catheter was introduced into the sac, which was washed out every six hours with the permanganate of potash solution, the catheter being retained in position. This treatment was continued for ten or fifteen days. Now and then a carbolized solution was used in place of the potash. She continued to improve until January 19, when she had a severe chill, with high fever, fetid breath, and a dirty yellow hue of skin.

Jan. 23.—She became unconscious; pupils dilated; urine dark, thick, and very offensive. Injected hypodermically pot. permang. gr. ¼ every four hours. A short time after this there was a decided improvement.

25th.—There was a free discharge of sero-purulent fluid, and on a speculum examination an opening was found within the cervix at the junction of the vagina, communicating with the sac of an abscess, smaller than the former; its contents were very offensive. A catheter was inserted, and disinfectants used as before. After this the patient rallied, and her improvement continued without interruption.

The special points we wish to direct attention to are these: That sero-purulent collections are more frequent than is supposed, and when discharged through the vagina their source is often overlooked; that when the contents are offensive, and keep up the fever, and the system is being poisoned, a drainage-tube should be left in the sac, and the latter washed out with disinfecting solutions *pro re nata*.

The question will arise whether these collections should be left to nature to make an outlet, or should the surgeon interfere? We believe that, if the symptoms indicate that the patient is in danger, an opening should be made early.

Papers were also read by Drs. Baruch, of New York; T. S. Means, of Spartanburg; A. A. Moore, of Camden; I. S. Hughson, of Sumter; Cornelius Kollock, of Cheraw; F. L. Parker, of Charleston; James Evans, of Florence; F. P. Porcher, of Charleston; Thos. I. McKie, of Edgefield; C. R. Fake, of Orangeburg; H. M. Holmes, of Spartanburg, and J. Ford Prioleau, of Charleston.

RESOLUTIONS

were adopted condemning the action of the New York State Medical Society in altering the Code of Ethics. (See THE MEDICAL NEWS, May 6, p. 507.)

Resolutions were also adopted endorsing the object of a bill now before Congress to create an international

commission for establishing definite and uniform standards of examination for color-blindness.

THE DISCOVERER OF ANÆSTHESIA.

A committee of three was directed to be appointed to investigate the claims of the original discoverers of the anæsthetic properties of ether, and the successful application of the same in surgical operations, to report at the next meeting.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President, F. F. Gary, M.D., of Abbeville; *Vice-Presidents*, Drs. P. A. Wilhite, of Anderson; W. A. Harrison, of Spartanburg; and A. A. Moore, of Kershaw; *Corresponding Secretary*, Dr. H. D. Fraser, of Charleston; *Recording Secretary*, Dr. John Forrest, of Charleston; *Treas.*, Dr. H. W. De Saussure, Jr., of Charleston.

The Association adjourned to meet next year on the 26th of April, at Yorkville.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting May 4, 1882.

FORDYCE BARKER, M.D., PRESIDENT, IN THE CHAIR.

THE minutes of the previous meeting, and the Librarian's report, having been read and approved, the Statistical Secretary, Dr. White, reported the death, on that day, of a Resident Fellow, Dr. James R. Wood, in the sixty-sixth year of his age, of double pneumonia.

DR. John G. Adams, Corresponding Secretary, read a memoir of Dr. James O. Pond, a deceased Fellow.

The scientific work of the evening consisted in an

ADJOURNED DISCUSSION ON BRIGHT'S DISEASE, SUGGESTED BY THE PAPER OF DR. McBRIDE.

DR. W. H. DRAPER opened the discussion by saying that it was a striking tribute to the genius of Bright, as well as a remarkable illustration of the slow progress which the art of diagnosis has made in the department of renal pathology, that the name, Bright's disease, is still the name by which we generally recognize the various forms of chronic nephritis. Bright offered no explanation of the morbid conditions which he described, and thus far the researches of pathologists, anatomists, and clinical investigators have failed to give common consent for any fixed pathological process, or invariable cause of symptoms, by which a a scientific nomenclature, or a characteristic clinical picture of the different forms of the disease can be established.

In opening the discussion of Dr. McBride's paper, Dr. Draper did not propose to consider the views of pathological anatomists as to the nature of the morbid processes involved in the production of the different forms of Bright's kidney. It was taken for granted that that which Dr. McBride meant when he gave the title of his paper, *The Early Diagnosis of Chronic Bright's Disease*, was the early diagnosis, especially of that insidious form of the malady, which, so far as we know, never begins by any symptoms which prominently call attention to the kidneys. In other words, the granular form of kidney, with its correlated phenomena of hypertrophied heart and atheromatous arteries. It was well known that the victim of granular kidney is liable to attacks of renal congestion of greater or less degree, giving rise to symptoms and signs which are pathognomonic. Several points in the etiology of this disease were considered. The first and one of the most important was heredity. The second point was the existence of the gouty habit, whether inherited or acquired. In support of this point several authorities were quoted. In studying the relations of gout to renal disease, their significance depended entirely on the recognition of the correlated phenomena in the history of gouty disease. We must take into consideration all the functional disturbances which result from lithæmia, which include the derangements of digestion, the urinary disturbances, and especially the irritations of the nervous system. We must consider the trophic derangements as observed in catarrhal affections of the mucous membranes, in the eczematous diseases of the skin, in the acute and subacute inflammations of the serous and synovial membranes, and finally the vascular nervous lesions. This may seem to be making of gout a universal disease, and so we believe it is, for the reason that it recognizes a universal cause in the inevitable errors of nutrition. A third etiological factor in granular kidney was senility. It was a disease of advanced life, being extremely rare under twenty, and the largest proportion of cases occurring between the ages of fifty and sixty. Senility was not alone to be recognized by years, but by the signs of degeneration peculiar to age, and these signs might be present earlier than was normal.

The object of reviewing these etiological factors in granular disease of the kidney was to show their bearing upon the theory that the disease is a general and not a local one.

The cardiac and vascular changes which are found in connection with this disease did not escape the observations of Bright, and the theories which he advanced in regard to the same are the theories upon which, at the present day, professional opinion is divided. Bright, in a report of a hundred cases of renal disease, says: "the obvious structural changes in the heart have consisted chiefly of hypertrophy with or without valvular disease; and which is most striking, out of fifty-two cases of hypertrophy, no valvular disease whatever could be detected in thirty-four; but in eleven of these thirty-four, more or less disease existed in the coats of the aorta, still, however, leaving twenty-two without any probable organic cause for the marked hypertrophy generally affecting the left ventricle. This naturally leads us to look for some less local cause for the unusual efforts to which the heart has been impelled; and the two most ready solutions appear to be, either that the altered quality of the blood affords irregular and morbid stimulus to the organ immediately, or that it so affects the minute and capillary circulation as to render greater action necessary to force the blood through the distant subdivisions of the vascular system. It is observable that the hypertrophy of the heart seems in some degree to have kept pace with the advance of the disease in the kidneys."

The most important part of Dr. McBride's paper, said Dr. Draper, was the contribution of the cases by which he sought to establish the possibilities of the early diagnosis of the form of the disease we have been considering. In thinking over the question of early diagnosis, much study should be given to the causes which are concerned in the production of the disease. Occasional albuminuria might occur as an early symptom. Dr. McBride had called particular attention to pulse tension as a sign of cirrhotic kidney, but it was also, probably, a symptom of the functional or formative stage of the disease. Dr. Draper agreed with Dr. McBride as to the great importance of high specific gravity of the urine, as an early sign of renal lesion.

Dr. Draper believed, however, that the appreciation of a functional or formative stage of granular kidney is, after all, but the early appreciation of the etiological factors which had been considered.

The question of heredity had as much importance in this disease as in phthisis. A still more important point was the early recognition of the gouty habit. It was doubtful whether we would ever arrive at anything more than a conjectural diagnosis of a formative stage of cirrhotic kidney.

THE PRESIDENT said that, about twenty-two years ago, this subject was before the Academy, and was dis-

cussed for several successive meetings, dwelling at length on albuminuria. The paper of Dr. McBride, and the points brought out in the opening of its discussion by Dr. Draper, showed that great advancement had been made, especially in regard to etiology and diagnosis. The therapeutics had not received quite as much attention as he should have hoped. In the discussion he would take the liberty to ask for an expression of opinion as to the therapeutic value of digitalis, and what discrimination in cases should be made in its administration. In the acute albuminuria of pregnancy and albuminuria associated with acute diseases he had found digitalis to be one of the most valuable remedies we have in restoring the function of the kidneys and promoting the elimination of urea. But in chronic cases it had seemed to him to be contraindicated.

DR. A. H. SMITH, in replying to the President's question, recalled the statement of Fothergill, that digitalis acts as a diuretic when it increases the arterial tension. If the action of the heart was such that, by increasing the length of the systole, we could get a more efficient action of the heart, a diuretic effect could be obtained by the administration of digitalis. As to other points in the treatment of albuminuria, he had been much gratified with the milk diet and hygenic treatment of this class of cases. He thought these patients should be in the open air as much as possible, as he believed it had been determined that excess of uric acid depended upon deficient oxidation. Whether the artificial administration of oxygen would be beneficial, he could not say. He wished to ask whether gout, as seen in England among the horse-racing gentry, is as likely to be accompanied with kidney disease as it was when occurring in persons of a sedentary habit.

DR. S. O. VANDERPOEL saw many forms of temporary albuminuria in which the lithæmic condition could not be recognized, or any difficulty of the vaso-motor system. He recognized, however, low blood pressure as being almost always the cause of albumen in the urine. In the first urine passed in cholera a large amount of albumen would be found. It would also be found in pneumonia, certain diseases of the heart, emphysema, and some forms of catarrhal pneumonia. He fully agreed with Dr. Draper. He thought that granular kidney should no longer be known by the name of Bright's disease. It was a diathetic disease. He had always supposed the arterial changes were first. Of course, in the early stages of this disease, there were scarcely any signs by which it could be recognized. It was a slow, insidious disease, running five, ten, or fifteen years. Patients rarely applied for treatment until the occurrence of the secondary accidents of the disease, as polyuria, hemorrhage from the nose, diarrhœa, etc. Digitalis was rarely applicable until the later stages, when the arterial tension had lessened to a great extent.

DR. KINNICUTT remarked that in his paper he had only endeavored to point out *one* of the probable causes of transient albuminuria. He believed it to be a matter of great importance to determine, if possible, whether any of the commonly accepted cardinal symptoms of granular kidney, viz., polyuria, albuminuria, casts, increased arterial tension, cardiac hypertrophy and changes in the fundus oculi, were so commonly present in the early stages of the affection, as to render its diagnosis at such times possible. Granting that no one of these symptoms was constantly present, nevertheless he believed that certain ones were of sufficiently common occurrence to demand especial attention. He referred to increased arterial tension, polyuria, and the presence of hyaline casts in the urine. He would confine his remarks to the last-mentioned symptom. By hyaline casts, he referred to casts homogeneous, without fibrillation, and unaffected by acetic acid. The tendency of modern English and American pathologists, it seemed to him, was to underestimate this symptom. Dr. George Johnson had taught that little value need be attached to their presence in the urine. Dr. Sandby, on the contrary, held quite an opposite opinion. Quite recently Aufrecht had apparently demonstrated, by a series of interesting experiments on animals, that hyaline casts were the result of an irritation of the renal epithelium, in consequence of which it secreted a clear fluid in drops, which subsequently ran together into cylinders, taking the form of the tubuli. These observations had been confirmed by Cornil. As Dr. Sandby had suggested, the production of casts of this type probably represented a process of minimum intensity, and that they were significant in proportion to their number and persistence.

Dr. Kinnicutt thought that for these reasons, among others, hyaline casts occurring alone, and particularly when associated with increased arterial tension, possibly constituted an important early symptom of granular kidney. The not uncommon occurrence of these casts in the water of patients suffering from persistent aggravated lithiasis is certainly suggestive. The existence of polyuria was believed to be a very early and valuable symptom, and the speaker thought that not enough care was usually taken in regard to determining this point. It required a good deal of questioning and, more than all, the measuring of the water for several days.

DR. F. A. BURRALL remarked that, in the study of two hundred examinations of specimens of urine, he found albuminuria present in eighteen cases, one in which uric acid was noticed, and two in which the presence of the oxalate of lime was mentioned. In regard to the specific gravity, he found it to be 1030 in three cases, 1008 in two, and 1010 in three. His impression was that albuminuria is by no means a frequent concomitant of lithiasis. He had records of cases of albuminuria, or chronic nephritis, illustrating the chronicity of this disease, having extended over a number of years, and at the same time the result of treatment, or spontaneous recovery. The records of one case ran from 1861 to 1879. The patient when first seen was a girl of ten years of age. The first symptom observed was occasional attacks of faintness. An examination of the urine disclosed the presence in it of albumen, and subsequently, casts. Whether the patient was cured by treatment, or recovered spontaneously, was impossible to say. It was a general impression that Bright's disease does not tend to spontaneous recovery. In this case, there were occasional exacerbations of the disease. In 1871 an examination of the urine showed no albumen. It was present in 1874. There were traces of it in 1876. In 1879 it had entirely disappeared, and the urine contained neither albumen nor casts. The treatment consisted mainly in attention to the rules of hygiene, warmth to the skin, and the use of the hot-air bath, together with the preparations of iron. There was one symptom which Dr. Burrall thought should always arrest our attention, and this was functional nervous disturbances. These, he thought, would be found many times to coincide with the existence of albumen. These, he thought, depended upon some functional disturbance of the kidney, and temporary suppression of elimination of the poisonous elements.

DR. MCBRIDE thought the point of greatest importance in the discussion was whether we could establish a stage of early occurrence of Bright's disease characterized by a sufficient number of symptoms to permit of its appreciation. At present our diagnosis of chronic Bright's disease is based mainly upon the low specific gravity of the urine, its quantity, and the presence of certain tube-casts and cells in the urine. If it can be said that there are present before these, certain symp-

toms which are observed constantly, and which may appear years before the symptoms indicating the close of the disease, great gain will have been made. Dr. McBride thought we are now in possession of these symptoms, but in estimating their value we have to take into consideration the personal equation. He knew of no more difficult task than the determining of the existence of high blood tension. In examinations of urine great care was necessary. We were very likely to overlook the presence of albumen or hypertrophy of the heart.

He was glad to have an opportunity of calling attention to the therapeutics. He believed that, in this country, the intelligent regulation of the diet of patients affected with suboxidation was due mainly to Dr. Draper, and would like to have the Doctor give a synopsis of the diet he advises in these cases.

DR. DRAPER remarked that he claimed nothing original in his views on diet; that the views which he now held were derived from the reading of one of the most remarkable books that had been written up to the time it was published—a book that was far ahead of the pathology and therapeutics of that time; he alluded to the work of Dr. Bence Jones. This book was published, he believed, in 1860, and was devoted to the discussion of what Dr. Jones described as *diseases of suboxidation*. It was an application of Liebig's views on gout and allied disorders, and consisted of a somewhat strictly chemical view of disease. The book was severely criticised at the time of its publication, but the views set forth in it were gaining ground.

In regard to the inquiry of Dr. Smith, as to whether gouty kidney is seen more commonly among gouty persons of sedentary habits, than among those who lead active out-door lives, he was unable to answer. His belief was that there are a great many gouty lesions, and that the vulnerability of different organs determines, in a very large degree, the points upon which the gouty tendency makes its inroads. In some individuals the joints are the weak and vulnerable points, in others the skin seems to be the weak point, and in still others, the mucous membranes seem especially to suffer. In others, again, he thought the arterial system was the chief point of attack. What it is that determines these different points of attack he thought was impossible to say, unless there was within each one of us, some point which yields more easily than others to attacks of disease.

As to the use of digitalis in the treatment of chronic granular kidneys, he would say, as Dr. Smith had said, that its use during the early stages, and through the chief continuance of the disease, was inapplicable, inasmuch as the condition of the heart is just the condition we aim to produce by digitalis. When valvular disease of the heart complicates this disease of the kidneys, he thought the rules guiding its use were pretty well settled. If the lesion be of the mitral valves, digitalis is unquestionably a remedy of great value, whether this condition be accompanied by granular kidney or not. If, as Dr. Draper thought was more likely, the complication is a lesion of the aortic valves allowing regurgitation, the same rules apply as in aortic insufficiency under any circumstances, digitalis would not be indicated, inasmuch as it increases the diastoles of the heart. In his own experience he had found morphia a much more valuable remedy in the later stages of granular kidney than digitalis, whether there be aortic insufficiency or not. We have all seen the great suffering of these patients from dyspnœa, towards the close of the disease, which is independent of any pulmonary lesions, and which is unexplained, notwithstanding many hypotheses have been offered. For this form of dyspnœa, whether accompanied or not by valvular disease, Dr. Draper believed there was no remedy which excelled morphia. Digitalis did not relieve this dyspnœa, and it might occur with considerable heart tension.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, May 3, 1882.

W. S. W. RUSCHENBERGER, M.D., PRESIDENT, IN THE CHAIR.

DR. JOHN B. ROBERTS exhibited a remarkable case of *Sacculated or of Cirsoid Aneurism of the Second Interosseous Branch of the Deep Palmar Arch, treated by Excision.*

The specimen is interesting because of the extreme rarity of the condition.

From his earliest childhood the case had been under Dr. C. H. Thomas's observation, and had had a small elongated tumor upon the *dorsal* surface of the first phalanx of the left ring-finger, while in the *palm*, at the junction of the bases of the middle and ring-fingers was a larger swelling. These were considered masses of dilated veins, as they had a spongy feel, and at times showed a bluish color. There was no very definite connecting band of swelling between the dorsal and palmar enlargements. No special pain was experienced unless the parts were struck, and no marked growth occurred. Hence nothing was done. As the boy grew, the hand and tumor increased, but held the same relative proportions. When the boy began work in a machine shop, the skin became thickened and soiled, and the bluish tint was no longer discernible.

About two months or less ago, the growths seemed to enlarge and to be accompanied by considerable pain, and Dr. Thomas advised the use of a compress in the palm and a bandage around the finger. This the boy wore at nights, and when off work. Recently there was noticed pulsation in the palmar tumor and a lobulated feel; and Dr. Thomas feared that an arterial aneurism existed.

When Dr. Roberts examined the boy last evening, he found on the back of the third finger a hard fibrous-like tumor, as large as a watermelon seed, with the long diameter corresponding to the length of the phalanx. In the palm was an illy defined swelling covered with thick skin, very sensitive to pressure, and occupying about the area of a silver half-dollar. No swelling was evident connecting the two tumors. On the ulnar side of the palmar mass moderately distinct pulsation could be felt, which quickly stopped when the radial artery was compressed at the wrist, but merely decreased in force when the ulnar was pressed upon with the finger. No pulsation was felt in the dorsal tumor. The boy had severe pain even when no pressure was made upon the growth in the palm.

Dr. Roberts was of the opinion that the growth was an arterial angeioma connected with the second interosseous branch of the deep palmar arch, having anastomoses with the digital branches of the ulnar artery. Dr. Thomas considered it possibly this, but probably a sacculated aneurism. His diagnosis has proved to be the more correct. It was determined to employ the Esmarch elastic bandage, and to make a free incision over the tumor and dissect it out, whether it be angeioma or aneurism. The boy was etherized and the elastic bandage applied.

Dr. Roberts made an incision from a point a little in front of the superficial palmar arch to the commissure of the fingers, and came upon a mass of fat and small vessels, in the centre of which was a bluish nodule, resembling larger vessels containing blood not driven out by the elastic bandage. Keeping close to the skin, and going down to the sheaths of the flexor tendons, he dissected the mass free. Lying alongside of the palmar interosseous muscle going to the ring-

finger (2d interosseous) he saw a comparatively large vessel which seemed to be the main feeder of the mass. He then extended his incision, making a straight cut along the side of the ring-finger, dissected up the skin, and enucleated the hard nodule lying on the back of the first phalanx. This seemed connected with the other mass by some fibres or small vessels, and both were removed as one piece. The wound was then plugged with dry muslin to stop the general oozing that occurred after removal of the bandage, and a tight bandage applied. No ligatures were required, because the incisions were made at a distance from the tumor.

Dissection of the palmar mass showed a small body, about three-quarters of an inch in diameter, containing clotted blood, and surrounded by adipose tissue and nerves. Small collapsed vessels in large numbers may perhaps be found in this adipose tissue by microscopic examination. Only a few larger ones were recognizable by ocular inspection because of the absence of blood from the interior. The tumor consists of three lobules of rather unequal size, arranged somewhat as a trefoil. The largest one of them, which has been punctured, allowed the escape of soft clot; this sac is about one-half an inch in diameter. The three sacs seem to be separate, because the head of a pin introduced into one does not pass into the others. The two smaller sacs or lobules are hard, as if the clot was old. One has been laid open, and shows a white centre, or nucleus, of cartilaginous consistence surrounded by a layer of red clot. On the surface of this three-lobed tumor runs a nerve, which probably was the seat of pain from pressure, and parallel to it a small artery. Both of these become lost in the mass, at the upper end of the tumor, which was thought to contain the main supply of the aneurism, and around which a string was tied and left for identification.

The tumor from the back of the finger is hard, and on section shows an irregularly colored red surface. The tumors, therefore, appear to be small sacculated aneurisms, evidently allied to, or identical with, the variety called cirsoid aneurism. The one on the back of the finger and the two smaller lobules in the palm, are undergoing cure by coagulation, induced in the dorsal one undoubtedly by the pressure from the bandage used at intervals during the last six weeks or two months.

The early period of life (about three years) at which the trouble was noticed primarily renders it probable that the aneurisms were not originally traumatic. It is possible that the vessels of an arterial angeioma may have become so dilated as to resemble these multiple aneurisms. The similarity to cirsoid aneurism is certainly very great, though there are some points which differ somewhat from the usual clinical history of these growths.

DR. W. W. KEEN called attention to the danger of using coagulating agents in such cases, and spoke of a case of traumatic origin he had seen in consultation, in which a few drops of Monsell's solution had been injected into the aneurismal sac, and gangrene had followed, necessitating amputation of the hand. He thought compression of the radial and ulnar arteries would probably have accomplished a cure, and the risks of an operation would have been avoided.

(To be continued.)

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, May 4, 1882.

E. L. DUER, M.D., PRESIDENT, IN THE CHAIR.

Icterus Neonatorum.—DR. BOARDMAN REED, of Atlantic City, N. J., remarked that the questions of most interest with regard to icterus neonatorum are its etiology and pathology, and its relations to umbilical hæmorrhage and purpura. As to the first of these points, we can arrive at satisfactory conclusions only after an extended series of autopsies such as it is rarely or never the privilege of the physician in private practice to see. The wards of lying-in hospitals ought to afford the needed data to determine, finally, whether jaundice in the new-born originates in the liver or in the blood. A sufficient number of thorough post-mortem examinations do not seem to have yet been made to set this question at rest, hence we find a variety of theories maintained.

The theory advanced in many of the older books is that the retained meconium forms an obstruction to the escape of bile. This does not seem to have been confirmed by post-mortem examinations, and is improbable from the fact that icterus usually does not develop in infants until several days after birth, and after there have been numerous fecal evacuations.

Some of the German authorities consider that icterus neonatorum is probably due to lowering of the blood pressure in the hepatic capillaries, in consequence of the cessation of the blood stream passing directly from the umbilical veins into the portal vein. This at first appears plausible, since experiments upon animals, conducted by Haidenhain and Lichtheim, prove that lowering the blood pressure in the liver, as by starvation, or establishing a biliary fistule, may cause all the phenomena of jaundice. But as this change in the circulation must take place in every infant immediately after birth, we should expect jaundice to be universal in the new-born, and to come on always within a day or two after birth, whereas it affects a very small proportion of the whole number of children born, and is generally developed between the third and tenth days.

It seems more probable to me that jaundice in the new-born (excluding the transient yellowish discoloration due to the natural fading of the rosy color first seen in healthy infants) may arise from at least two wholly different causes, and is therefore divisible into two classes, one obstructive or hepatogenous, and the other of hæmic origin, or hæmatogenous. The first, we have reason to believe, originates most frequently, as in adults, from a catarrh of the duodenum or bile ducts, which we might expect *a priori* to result during the first week of life from the ablutions to which many infants are subjected under circumstances that render the taking of cold almost unavoidable before a tolerance has become established.

That exposure to cold is one frequent factor in producing the disease is well known. It is recorded by West that in the Dublin Lying-in Hospital, where the hygienic conditions are excellent, infantile jaundice is very rare; while in the Foundling Hospital at Paris few infants escape it, nearly all the abandoned little waifs being exposed to cold before admission.

It is doubtless true that jaundice dependent upon persistent obstruction, occlusion, or congenital absence of the bile ducts, instances of which have been observed in infants, may go on to the production of profound blood changes and be complicated with hæmorrhage as a consequence from the umbilicus or mucous surfaces; but I am disposed to maintain that many of the grave cases associated with such hæmorrhages are of hæmic origin. The reasons for this view are:

(1.) The constantly observed fact that the most intense forms of obstructive infantile jaundice are often accompanied by light stools and high colored urine, and yet unaccompanied by any tendency to hæmorrhage. Several of my cases exemplify this fact, and, notably, the one hereinafter reported, of a child born with measles and shortly afterward developing jaundice. Every practitioner must see many cases of severe

yet uncomplicated jaundice. On the other hand, persistent and fatal hæmorrhage now and then occurs in cases where the jaundice is only slight. Many such are on record; nor can it be assumed that the connection is only accidental, as the statistics to be cited further on abundantly establish a causal relation between jaundice and hæmorrhage.

(2.) The fact that these hæmorrhagic cases associated with slight jaundice do not usually present any marked evidence of obstruction to the flow of bile, such as constipation, white stools, etc.

(3.) The fact that they occur frequently under conditions such as immaturity and feebleness at time of birth, which have no obvious connection with hepatic obstruction, but are most likely to be dependent upon an inheritance of poor blood from the maternal system, or of digestive and assimilative powers so weak that the elaboration of healthy blood by the infant organism is impossible.

These reasons, I submit, render still tenable the theory that infantile jaundice may have other than a hepatic origin.

The relations of icterus neonatorum with the hæmorrhagic condition manifested most often by bleeding from the umbilicus, is a subject of much interest and practical importance, concerning which the profession is in need of more exact information. That there is often a dependence one upon the other is certain. Among two hundred cases of spontaneous umbilical hæmorrhage which have been reported, including two of my own, jaundice was observed in seventy. It probably existed in a slight degree in a much larger proportion not being considered of sufficient importance to report, but even the above-recorded ratio of more than one in three is sufficient to prove a causal relation, since in any unselected two hundred births we should not expect to have more than ten or fifteen cases of jaundice, instead of the enormous number of seventy.

Spontaneous umbilical hæmorrhage is so rare that many physicians of extensive experience have never seen it. West, in the first edition, gives a better description of it than most recent writers on diseases of children. He emphasized, particularly, the fact that it may depend upon a grave form of jaundice, but states that he had never met with a case of it.

This complication being so rare, I shall not apologize for briefly summarizing here a report of an interesting case of it seen two and a half years ago in Atlantic City.

CASE I.—A female child born two weeks, at least, before term; weight about six pounds. The mother had suffered at times, for years, from anæmia, palpitation of the heart, and various hysterical symptoms. During the pregnancy she had nausea almost constantly due to disease of the cervix. Vomiting was so severe and frequent towards the close of the period, that her health was greatly impaired by it. I was on the point of applying nitrate of silver to the cervix, when, after a number of uterine hæmorrhages, extending over a week, labor came on and the child was speedily born. The father was even more delicate than the mother, having chronic dyspepsia, periodical sick headache, and nervous exhaustion.

After the delivery the cord was secured with a double ligature, and there was nothing abnormal until the fourth day, when the compress over the umbilicus was found saturated with blood, which oozed from all parts of the softening funis. Numerous powerful styptics were applied, with only temporary good results; the bleeding, though checked for a time, always recurring after the lapse of a few hours. Dr. W. H. Bennett was was called in consultation, and the day after the hæmorrhage began, hare-lip pins were inserted through the tissues beneath the umbilicus and the mass ligated. This greatly diminished the bleeding, and the following day the ligatures were tightened, with the effect of finally stopping it. Ergot and tincture of the chloride of iron were administered in very small doses, with a view to modifying the hæmorrhagic diathesis which evidently existed. Before the hæmorrhage was controlled, spots of purpura appeared on the forehead and other parts; jaundice developed shortly after the bleeding began, and became marked enough to be noteworthy, but was at no time intense; the stools continued unchanged in appearance, with a tendency to diarrhœa, rather than to constipation. The mother having no milk, the child was fed artificially from birth. Shortly after the hæmorrhage ceased, a volunteer wet-nurse suckled the child for several days, with manifest advantage. When artificial feeding was resumed, diarrhœa set in and became troublesome; appropriate treatment, and a change from cow's to condensed milk, checked the bowels; but the child failed steadily, nutrition evidently being irreparably damaged, and some icterus persisted until the seventeenth day, when it died. No autopsy was permitted.

As an interesting supplement to this report, I may add that a few months ago another child was born to the same parents, and has had the following history: It was a male, and somewhat larger at birth than its predecessor. On the second day there was some oozing from the funis, in spite of two ligatures most carefully applied; but this was so readily controlled that it would scarcely have received a second thought, except for the serious hæmorrhage in the previous child. As showing the feeble and neurotic constitution bequeathed to these children, it may be mentioned that this infant had a convulsion on the second day after birth, and has had similar seizures at frequent intervals since. It has shown no jaundice at any time.

As a striking example of hepatogenous jaundice in the new born, the following report is introduced.

CASE II.—The mother while pregnant contracted measles in a severe form; the rash, after coming out well, retroceded, pneumonia developed, and she then aborted some two or three weeks before term. The child, which was of fair size, weighing upwards of seven pounds, was covered with a faint rash at the time of birth, and within a day or two presented the usual symptoms of the exanthem, including the catarrh, though the fever was slight. By the fourth day, its skin began to turn yellow, and there was rapidly developed a very intense form of jaundice, the color, at one time, becoming almost olive green. There was constipation, with one hard, white, putty-like stool daily, urine high-colored, staining the napkins. The liver seemed abnormally small; the region of dulness on percussion measuring about one and a half inches in the mammary and one inch in the axillary lines. The child was fed first with diluted cow's milk, and later with condensed milk. I saw the case on the ninth day from birth, juandice was then very marked, the hue being of a greenish-yellow; but there had been no hæmorrhage either from the umbilicus or any other part. The child manifesting considerable appetite, and apparently fair digestion, I ventured the opinion that it might possibly survive, though an unfavorable prognosis had previously been given. It recovered gradually from the jaundice which lasted in all some twelve days, but has since suffered severely from indigestion, and is not thriving well.

Careful microscopical examinations of the blood taken from a large number of infants affected with icterus in its various forms would shed much light upon the subject; but I cannot learn that any systematic observations of the kind have been made. I regret that such an examination was not made in any of my cases, an omission to be expected of a busy physician

in private practice, but one which our friends, the internes in the lying-in wards of the hospitals, ought to make, amply supplied as they usually are, with all the necessary appliances, and with authority to institute any necessary scientific investigations.

DR. HENRY BEATES, JR., Physician to the Sheltering Arms Hospital, Philadelphia, has kindly furnished me with the following notes of cases recently seen by him:

"Having in my ward a large, plump, finely-developed infant, presenting the characteristic manifestations of the so-called icterus neonatorum, I submitted a drop of its blood to microscopical examination.

"The tendency to the formation of rouleaux was characteristically healthy. The corpuscles have the normal relationship of white to red. The only noticeable feature constituting what might be considered an etiological factor of this affection is a greater number of disintegrated red corpuscles and free protoplasmic nuclei. These, however, were very slightly in excess of that commonly seen under ordinary circumstances, and not sufficient, in my mind, to satisfactorily account for the intensity of the discoloration. Other symptoms of jaundice, like involvement of conjunctivæ, pigmentary discolorations by the urine, light stools, etc., were and are positively negative. I desire to especially direct attention to the fact that this infant is well nourished and plump.

"Another case, in fact two, presenting the same phenomena and under the same conditions of good nourishment, I might say plethora, have occurred recently in private practice.

"Another child in my ward, when a little less than eight days old, also presented the phenomena of icterus; but mark the contrast. The child was small, thin and poorly nourished, its expression was one of suffering, its bottle was not eagerly sought, and vomiting frequently occurred. The bowels were constipated and presented the peculiar clay-colored stool, and the urine stained every thing with the characteristic yellow, the conjunctivæ were also involved. After a period of two or three weeks, the icterus had faded, and the child is now thriving well. This is an instance of true jaundice (catarrhal), and presents features affording an opportunity of comparison with the discoloration of cutaneous hyperæmia seen almost as frequently as we see what might be termed plethoric babies."

Dr. Julius Kammerer, of Philadelphia, having spoken to me of some remarkable cases of icterus, I asked him to summarize his experience in a note which is here appended.

"There have been cases under my observation where the jaundice of children coincided with, and was dependent on, an ulceration and non-cicatrized state of the navel. This cause of jaundice was so clearly demonstrated that in the autopsy of fatal cases there were found phlebitis of the umbilical vessels extending sometimes to the portal vein, and even small abscesses in the parenchyma of the liver. In every case of icterus of the new-born, I have made it a rule to examine the navel looking for signs of inflammation or ulceration, as the prognosis in case of their existence would be less favorable than in cases of catarrh or mechanical obstruction of the biliary ducts. I have seen some of these cases end fatally by the spread of imflammation to the umbilical veins, or by a putrid condition of the blood subsequent to the absorption of purulent and putrid matter."

These observations of Dr. Kammerer were partially made at the Paris Foundling Hospital, during his studies in that city, and seem to me highly important. His note was not received until after the completion of this paper, and on the eve of this meeting, else the views it embodies would have received full consideration in that portion of this paper devoted to the discussion of the etiology of infantile jaundice. It is confirmatory of my opinion, that such discoloration may be hæmatogenous and often associated with disease of the umbilicus.

I have notes of many other cases of simple jaundice in young infants, but they would exemplify nothing more than is shown by the foregoing reports. As already intimated, the subject needs further investigation, but clinical study simply will not afford the light required. The revelations of the dead-house and the microscope, carefully and scientifically observed, can alone determine positively the points in dispute.

NEWS ITEMS.

NEW YORK.

(From our Special Correspondent.)

A NEW MEDICAL SCHOOL PROJECTED.—Communication has been established between the Hon. Andrew D. White, President of Cornell University, and the recently resigned gentlemen of the Post-Graduate Faculty of the University Medical College, relative to the establishment of an endowed medical department of Cornell University, to be located in the city of New York. Though no official action has yet been taken by the trustees of Cornell University, yet the following, copied from the editorial columns of *The Cornell Era*, of May 5, will serve to indicate how the new scheme is received at Ithaca:

"Eight professors, who have recently resigned from the medical department of the University of New York because they were unable to carry out a system of post-graduate instruction, wish to establish a medical college which shall be connected with Cornell and under the control of her trustees. . . . The proposals submitted are substantially that the new college shall differ in many respects from those already established; that it shall have entrance examinations, and its classes shall be graded; that there shall be a post-graduate course, in which most thorough use will be made of the clinical facilities of the city; that the professors in the college shall have a voice in its government, and, most important of all, perhaps, that the institution shall be endowed, and the salaries of professors shall not depend upon the size of their classes.

"Professor Wilder, several years ago, published his views in regard to the establishing of additional medical colleges. 'It is to be hoped,' he said, 'that no proposition to establish a new medical school will be entertained, unless it include the assurance of an endowment such as may warrant an elevation of the standards for admission and graduation far above the present level. . . . . The elevation of the standard of medical education demands—*a*. High acquirements for admission. *b*. Lengthening of medical terms to nine months, not so much in order that more may be taught, as to allow time for digestion and assimilation of what is already presented in four, five, or six months. *c*. Systematic gradation of studies, and exclusion of first-year students from clinics and hospital wards. *d*. Increase of time for instruction in physiology and hygiene. *e*. Endowment of the chairs, making the salaries independent of the number of students or graduates. *f*. Separation of the teaching body from the licensing power, the latter being under central and national control.'

"These opinions were warmly endorsed by Prof. Agassiz. . . . Our University is at present doing thorough work in chemistry, anatomy, physiology, and hygiene, preparatory to the study of medicine, which is unlike that done at any other institution in the country, and which is infinitely more satisfactory than any slipshod medical course could be. President White is not in favor of founding a school of medicine simply for

the sake of founding one, but would heartily endorse the establishment of a medical college, whether connected with Cornell or not, which should be so thoroughly and unconditionally endowed that the college would not depend upon mere patronage for its support. By this means it would be possible to elevate the standard of medical education, to provide rigid entrance examinations, and still more rigid examinations for graduation, to lengthen the existing course of study, and provide thorough post-graduate instruction. . . . . The recent proposal of the eminent New York physicians seems more nearly to meet the wishes of our authorities than any before advanced, and should they be accepted, the fact will be in itself sufficient evidence that a medical college is to be established which shall more nearly realize the ideal of that growing class of thinking people who are becoming disgusted with the hasty and inadequate instruction of that numerous class of medical schools, which seem desirous of conferring diplomas upon students that shall represent the least medical knowledge which those students can be induced to accept. In an institution which is not heavily endowed, the temptation to call together as many students as possible is irresistible, and the instruction and standard of requirements must suffer in consequence.

"There are objections to the scattering of different schools of our university over a radius of several hundred miles, but the advantages of position in a metropolis are so evident that the disadvantages need hardly be taken into account; then, too, by the establishing of a department of our university in a large city, something of the provincialism charged against the present management would be gradually and naturally removed."

Thus it will be seen that the ambitions of the resigned New York professors are in a fair way to be realized.

ST. LOUIS.

(From our Special Correspondent.)

THE DEATH OF DR. JOHN T. HODGEN.—The telegraph has probably already informed the profession of the death of Dr. John T. Hodgen, of this city, and this announcement has caused sincere regret and sorrow in the profession wherever it has reached. It is difficult to realize the feeling with which the news of the great surgeon's sudden illness and his unexpected death were received in this city—indeed, in this State of Missouri. He had been in the very best of health, vigorous, cheerful, and full of life, working, as was his habit, from morning until night, in better health and spirits than he had been for years.

Thursday, April 27th, while in the court-room, he was taken ill; at 11.30 A. M., he suddenly felt an intense and exhausting pain, and at once drove home, hardly able to leave his buggy; he was so weakened by pain that he could not walk up the steps of his residence, but crawled up on hands and knees, calling for chloroform.

Dr. Spencer, the first physician called, dreaded peritoneal inflammation, and at once suggested an opiate, a hypodermic injection of morphia. But Dr. Hodgen, and it was most characteristic of the man, true to the last to his self-sacrificing nature, insisted on chloroform, as morphia always unfitted him for work for several hours, he said, whilst chloroform deadened the pain and allowed him to at once continue his rounds. He looked upon this as one of his usual attacks. He had already at various times had peculiar attacks of intense abdominal pain, which he supposed were due to biliary calculi.

This attack, as he remarked to Dr. Spencer, differed from any he had ever had, especially in the great tenderness of the abdomen. Other physicians, friends, and neighbors, soon came in, and the brief illness may be best described in the words of Dr. Baumgarten, who was his main attendant. At the meeting of the St. Louis Medical Society, he said:

"It was impossible to chloroform him. He breathed and moved so that it was unsatisfactory to administer it to him; it became impossible to relieve him with chloroform. Subsequently, during the course of the afternoon, repeated doses of morphia and bismuth relieved him somewhat, but as time went on we found it was more difficult to subdue the pain. Finally a large dose of strychnia put him to sleep. From that time on he remained quiet, and at midnight was sleeping peacefully. In the morning repeated injections of morphia did not entirely succeed in repressing the pain, and the case presented a more serious aspect. On the previous evening leeches were applied, and in the morning, after consultation, leeches were put on him again, but at this time a tenderness of the whole abdomen was apparent. The pulse increased; the hands were cold and clammy. At last an injection of morphia was combined with a small dose of atropia. His condition at this time required more care. I had to stop the leeches and administer stimulants. In the afternoon at 1 or 2 o'clock, his pulse ran up to 120 or 140, oscillating a good deal, the skin became very moist, several doses of atropia staved off the result for a time, but he sank rapidly. At 7 or 7.30 P. M. he passed away. During the day it was observed that peritonitis was setting in, the result of a perforation."

The post-mortem examination made upon the following day by Dr. E. H. Gregory, revealed a peculiar obstruction of the gall duct, resembling a stricture, by a valvular fold of the lining membrane, and a pinhole perforation of the gall bladder; no calculi; evidences of recent peritonitis and remnants of old and repeated attacks.

The numberless persons who crowded the dwelling to catch one last glimpse of that shrewd, earnest, but kindly face, testified to the respect in which the dead surgeon was held. The feeling among the people can only be compared to that which followed the news of the assassination of President Lincoln or Garfield. It was a universal and deep-felt sorrow among high and low, rich and poor, as was shown by the large attendance from far and near at the funeral, which took place upon a most beautiful and peaceful Sunday afternoon, when friends and relations, the medical societies of this city, medical men, students and colleagues, as well as patients from Missouri and Illinois, followed this tireless worker to his last resting-place.

Dr. Hodgen was born January 17, 1826, near Hodgenville, in the County of Larue, Kentucky. His father was Rev. S. P. Hodgen, a minister of the gospel. From his early boyhood, J. T. Hodgen showed signs of the brightest intelligence. From the very start in his pursuit after knowledge, he made rapid progress and distinguished himself at school. When a youth he was sent to Bethany College, Virginia, from which institution he graduated with honors. By the time he was twenty he was a student of medicine. He graduated from Dr. McDowell's college in St. Louis, and was a resident of this city for thirty-five years. For thirty-three years Dr. Hodgen was a professor of medicine, and no one loved more than he to impart knowledge to students.

He married Miss Mudd, of Pittsfield, Ill., sister of Hon. H. T. Mudd, and she survives him.

As a writer, Dr. Hodgen also attained distinction. He edited and prepared several departments of the American edition of Holmes' Surgery, recently issued, and was an occasional contributor to our periodical literature. During 1881 he was president of the American Medical Association. For a number of years and at

the time of his death he was Dean of the St. Louis Medical College, and Professor of Surgical Anatomy, Fractures, and Dislocations. He was noted as a leader of the profession to which he devoted his energies so assiduously, and in private life was loved and esteemed. He was a man of the loftiest sentiments, energetic, firm, intense, reticent, and, above all, honest.

His heart and soul were in the St. Louis Medical College, of which he was dean; and with his quiet firmness, circumspection, and self-reliance did he guide it, until he was looked to for everything, and, as a consequence, his loss will nowhere be felt as keenly as in this institution.

Meetings of all the medical societies of this city were held in honor of the dead surgeon, and many of those of this and neighboring States convened to offer sentiments of esteem and solemn eulogies to this universally honored man.

The expressions of sorrow on the part of profession and people are sincere, and especially sincere on the part of the poor. It is among the working poor that the great mass of surgical injuries occur, and here this good and true man did his noble work; never did he refuse a call for the poor, and although always in a hurry, never wasting a word in the sick-room, he was most attentive to the needy and poor, and gave them his very best skill.

Everywhere will he be missed and by every one.

LONDON.

(*From our Special Correspondent.*)

THE SURGERY OF THE URINARY ORGANS. — The recent advances in the surgical treatment of diseases of the urinary organs are the most interesting topics of discussion at the medical societies of London at the present time. Last week, at the Medical and Chirurgical Society, Sir Henry Thompson described a case of pedunculated fibroma of the bladder, which he had successfully treated by removal through a perineal incision. The patient was originally under treatment for calculus, and was submitted to lithotrity more than once, but the symptoms were not completely removed; and then, on careful exploration of the bladder, the tumor was grasped, though, as it was coated with phosphatic deposit, it was mistaken for a sacculated stone. Sir Henry Thompson opened up the membranous portion of the urethra from the middle line, and then, after detecting the true nature of the case, removed the growth by twisting it off with a pair of forceps; there was no bleeding to speak of, and the man made an uninterrupted recovery. Sir Henry strongly urged that where it is necessary to open the bladder for diseases other than stone, it is better to open the membranous urethra in the middle line, than do either the "lateral" or suprapubic operation; he insisted that the bladder could be efficiently drained and explored through this incision, that most tumors of removable size could be removed through it, and that it was a far simpler and safer procedure than either of the others. In the subsequent discussion many speakers joined issue with him on this point; Mr. Bryant, Prof. Marshall, and Mr. R. Harrison, for instance, preferring the "lateral" incision. But, of course, the chief point raised in the discussion was the diagnosis of the tumors which are capable of this treatment, from those which are not, the most reliable points in favor of the former being youth and the absence of induration on rectal or vaginal examination. Sir Henry Thompson's case will probably be of great service in drawing marked attention to the subject, and especially in encouraging surgeons in exploring the bladder through a perineal urethral wound, which, he says, can be done so easily and so efficiently. As this operation is practically free from danger, it will probably be used as an aid to diagnosis as much as for treatment.

Three meetings during the present session of the Clinical Society of London, over which Mr. Lister presides, have been devoted to the subject of operations upon the kidney. Nephro-lithotomy, or excision through the loin of a stone from the kidney, has been shown to be a very successful operation if the stone be small, as these calculi often are, and the renal tissue healthy. Mr. Battin and Mr. Beck related such cases, but Mr. Godbe contributed a case in which the kidney was greatly enlarged, sacculated, and each sacculus was filled with a good-sized stone: here excision of the whole organ was attempted, but the patient died. Nephrotomy or exploration of the kidney, with or without incision into it, has also proved very useful on many occasions. The operation itself appears to be very free from danger, and in most cases the kidney has been easily exposed. When stone is suspected, a long needle set in a handle, devised by Mr. Barker, is used to puncture the organ in various directions until grating is felt. The incision and drainage of strumous and suppurating kidneys appears to be capable of affording great relief, but as yet has not proved absolutely curative; and at this point a divergence of opinion comes in, some maintaining that in such cases it is better to excise the kidney at once, and others that it affords a better chance to drain the kidney first, and then, when the patient has recovered a certain amount of strength, to do the more severe operation. Further experience is wanted to decide this point; the objection to postponing the excision is that the first operation leads to great induration around the kidney, and increases the difficulty of subsequent nephrectomy.

Nephrectomy, or excision of the kidney, is a very severe operation, and we have just had a series of three fatal cases presented at the Clinical Society; in one the death was from total suppression of urine, and in the two others a dose of morphia, administered soon after the operation, is shrewdly suspected of having, at any rate, accelerated death. The special point on which there is a good deal of doubt here is, whether it is better to remove the kidney through the loin or through the belly. If the organ is very large, it cannot be excised by a lumbar incision, and it appears probable that the abdominal incision will be found to be the better in all cases. We are not so fearful of opening the peritoneal cavity as we used to be, and the removal of the organ can be proceeded with with so much more exactness and ease from the front than from behind. The best abdominal incision seems to be one made in the linea semilunaris. The small intestines are to be well drawn aside, and the peritoneum cut on the outer side of the colon, and that viscus turned in. If, now, the cut edges of this layer of peritoneum are at once united to the edge of the wound the operation in its further stages becomes extra-peritoneal.

THE PUBLIC HEALTH.—The following items, received too late for our last issue, are furnished for the *week ending April 29*. Of ten cities whose reports are before us, only two, namely, Brooklyn and New Orleans, note the presence of *small-pox*. In the former city there were 5 new cases and no deaths; in the latter there were 16 deaths, a decrease of 2 from the number reported the preceding week. *Cerebro-spinal meningitis* caused 3 deaths in Buffalo; 2 each in the District of Columbia and Salt Lake City; and 1 each in Charleston, Milwaukee, and New Orleans. A sudden and notable increase in the deaths from *diphtheria* is observed in Brooklyn, where the deaths, numbering 27, have far exceded those reported in any week during the past three months. The deaths in New York City

for the same week were 37. Buffalo, the District of Columbia, and New Orleans, each report 2 deaths from the same cause. There was a slight improvement in the death-rate from *scarlet fever* in Brooklyn, but the mortality is still unusually heavy. The deaths were 30, as compared with 34 in the preceding week. There were 7 deaths in Buffalo from the same cause. There is nothing specially to note with respect to *typhoid* or *malarial fevers*. *Cholera infantum* has made its appearance in some of the southern cities. There were 4 deaths from this cause in New Orleans. In northern cities this disease does not manifest itself to any great extent until the appearance of the first prolonged spell of hot weather, which usually occurs in the middle or latter part of June. Cases usually begin to appear in May, and increase in number gradually as the season progresses. Coincident with the first period of extreme heat, the mortality suddenly increases and becomes excessive. The maximum death-rate from this cause most frequently occurs in the latter part of June or in the first part of July.

From the mortuary records of *the week ending May 6*, we have selected the following facts respecting some of the prominent causes of death:

Small-pox.—This disease, which has been so widespread throughout the country during the past winter and early spring, is gradually becoming less and less prominent as a cause of death. It still lurks in some of the cities along the line of travel to the far West, and in New Orleans, where it was later in making its appearance. In Cincinnati, where it appears to be most persistent, the people are weary of its presence, and this feeling has culminated, during the past week, in the adoption of a series of resolutions by the Board of Trade, expressive of the inefficiency of the Board of Health, and demanding its reorganization. It is to be hoped that philanthropic motives have been the main incentive to this action. If we mistake not, we have seen the statement that gratuitous vaccination was some time ago partially abandoned on account of the fact that persons able to pay for the operation, took advantage of the opportunity for securing vaccination gratuitously. If this be so, a great mistake has been made, as parsimony in the administration of all matters pertaining to public health is a policy which eventually results in increased expense, not to speak of the evil influences it exerts upon the health and welfare of the people. There were 8 deaths during the week from small-pox in New York City; 4 in Philadelphia; 6 in Pittsburg, with 21 new cases; 1 case reported in Boston; 15 new cases and 1 death in Louisville; 2 deaths in Memphis; 1 death and 5 new cases in Dayton, Ohio; 11 deaths in Chicago, and 2 deaths and 4 new cases in Omaha.

Cerebo-spinal Meningitis.—There was no unusual mortality from this disease during the week. New York City reports 4 deaths, and Philadelphia 3. In some other places one or two deaths were reported for the week.

Diphtheria.—Since the first of the year, diphtheria has been a conspicuously prominent disease in New York City, Philadelphia, Boston, Brooklyn, and Chicago. It still continues in all these places with but slight variation. There were 32 deaths in New York City; 9 in Philadelphia; 10 in Boston, and 34 new cases; 3 in Detroit; 3 in Milwaukee; 2 in Pittsburg; 10 in Chicago, and 1 in Providence. The greater number of places report no deaths from this disease.

Scarlet Fever.—New York City reports a further decrease in the mortality from scarlet fever. The deaths for the week were 55. There were 8 deaths in Philadelphia; and 1 each in Wilmington, Del., and Nashville; 5 in Milwaukee, and 15 cases reported.

Typhoid and Typhus Fevers.—Except in Philadelphia, the mortality from typhoid fever is in no place excessive. In this city the deaths amounted to 25. The unusual prevalence of the disease at this season of the year would seem to indicate the presence of some special cause, which, so far as we know, has not been determined with any certainty. The unusual increment of the death-rate of this disease should be the subject of a careful investigation. The deaths from this cause in New York City were 5. In Boston there were no deaths, but 8 new cases. In a number of other places 1 death is the highest number recorded during the week. There were 4 deaths from typhus fever in New York City.

Measles and Whooping-cough.—These diseases are principally prevalent in New York City. From the former cause, there were 25 deaths; from the latter, 21. There were 6 deaths from measles in Philadelphia, and the same number from whooping-cough in Boston, and 15 from measles in Chicago.

Consumption and Pneumonia.—From consumption there were 123 deaths in New York City; 30 in Boston; 25 in Chicago; 13 in Louisville; 10 in Providence; 8 in Pittsburg; 6 each in New Haven, Detroit, and Indianapolis; and 4 in Wilmington, Del. From pneumonia, 98 deaths in New York City; 37 in Philadelphia; 18 in Boston; 6 in Providence; 4 each in New Haven and Indianapolis; 15 in Chicago, and 3 in Louisville.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending April 29, 1882, indicate that cerebro-spinal meningitis, dysentery, bronchitis, erysipelas, and pneumonia have decreased in area of prevalence. There was no marked increase of any disease reported. Small-pox was reported as prevailing at eight places, as follows: At Plainwell, Allegan county, April 24; in Big Prairie township, Newaygo county, April 26; in Everett township, Newaygo county, April 28; at Detroit and Flint, April 29; at Manistee, April 30; at Grand Rapids (one new case), May 4; and it is unofficially reported that there are, on May 4, two new cases of small-pox at Menominee.

DR. GRAY'S ASSASSIN.—Dr. McDonald, of Auburn, Dr. Flandrau, of Rome, and William H. Bright, of Utica, the commission appointed by the court in the matter of Henry Remshaw, who shot Dr. John P. Gray, of the New York State Lunatic Asylum, report that Remshaw is insane, and recommend that he be committed to some asylum. They sharply criticise the Directors and others who heard Remshaw make threats against Dr. Gray, weeks before the shooting occurred, and did not report the fact to the proper authorities. Dr. Gray is again able to be out.

THE ALLEGHENY COUNTY MEDICAL SOCIETY AND THE NEW YORK CODE.—At the last regular meeting of the Allegheny County Medical Society, Dr. W. H. Daly offered the following, which was unanimously adopted:

Resolved, That the Allegheny County Medical Society hereby expresses its disapproval of the action of the Medical Society of the State of New York, wherein fifty-two of its members assumed to lay aside the existing Code of Medical Ethics and substitute instead a rule inconsistent with the honest convictions and traditional principles of the medical profession in regard to affiliation with those who practice upon the public under the guise of popular dogmas.

THE MEDICAL ASSOCIATION OF PHILIPS COUNTY, ARKANSAS, AND THE NEW YORK CODE OF ETHICS.—The Medical Association of Philips County, Arkansas, in session in the city of Helena, on Thursday, April 27, had its attention called by the President, Dr. D. E.

Byrd, to the changes made in the Code of Medical Ethics by the New York State Medical Society; and after a full and free discussion of said changes and detractions, on motion of Dr. P. R. Ford, the President appointed a committee of three, consisting of Drs. A. A. Homer, F. N. Burke, and Peter R. Ford, to draft appropriate resolutions in regard thereto; who, after a short recess, presented the following:

Whereas, We, the members of the Philips County Medical Association, have discovered with great mortification, among a portion of the members of the medical profession of New York since 1876, a growing dissatisfaction with the Code of Ethics of the American Medical Association, which culminated in the adoption by the New York State Medical Society, at its meeting in February last, of a code which is in direct conflict with a most important part of the law established by the American Medical Association. Therefore,

Resolved, first, That all the infringements and additions to the fundamental law of the American Medical Association are unnecessary and mischievous, and deserve the censure and condemnation of all true men in the medical profession.

Second, That the rule adopted by the New York State Medical Society, governing its members in consultation, in which they declare the right to meet in consultation legally qualified practitioners of medicine, irrespective of any further qualification or restriction, is in direct opposition to the code established by the American Medical Association, and in its operations and bearings tending to destroy the line of distinction that has so long existed between the honest, educated physician and the charlatan.

Third, That the Code of Ethics is a part of the organic law of the American Medical Association, and is above and beyond State organization, and can only be changed by resolution offered in open session to lay over for twelve months, and then by a vote of three-fourths of the members present, and that all the members of the American Medical Association, or members of societies in affiliation therewith, are bound by its obligations, and amenable thereto for all violations, and that in this action of the New York State Medical Society they have offered a gross indignity to the parent association.

Fourth, That the Code of Ethics of the American Medical Association, in its provisions and restrictions, is comprehensive and liberal, and we see no necessity for a change; that the action of the New York State Medical Society, in its abrogation of our law, is hasty, ill-timed, and without a precedent, and deserves the condemnation of the American Medical Association in vindication of its own dignity.

Fifth, Having passed through a similar ordeal in our own State organization, we can most truly sympathize with the just and loyal men of the profession in New York who raised their hands and voices in protest against this effort to throttle organized medicine.

Dr. D. A. Linthicum seconded the resolutions, and they were unanimously adopted, and it was directed that they be forwarded to THE MEDICAL NEWS for publication.

WHAT IS SAID OF THE NEW YORK CODE OF ETHICS.

The action of the New York State Medical Association, sanctioning consultation with all legalized practitioners, has aroused a perfect whirlwind of indignation in medical circles throughout this country and Canada. The condemnation on the part of the medical journals is almost unanimous, and the various State and county medical societies express their dissent in no uncertain tones.—*Mississippi Valley Medical Monthly.*

We are satisfied to regard those who associate with homœopaths, eclectics, and other irregulars as men of the same stripe, cast in the same mental and moral mould. Birds of a feather flock together and aliens are driven out; just upon the same law of kindred association "a man is known by the company he keeps," and those who are not of his kidney shun his contact, and purge themselves of his offending presence. . . . Amongst the American journals the *Record* stands almost alone in its advocacy of the new departure, and we regret to say, judging by its last issue, seems to glory in its shame.—*Canadian Journal of Medical Science.*

RESOLUTIONS OF THE MEDICAL BOARD OF BELLEVUE HOSPITAL ON THE DEATH OF JAMES R. WOOD, M.D.—At a special meeting of the Medical Board of Bellevue Hospital, called on the occasion of the death of the late Prof. James R. Wood, and held on the 6th of May, 1882, it was resolved:

1. That by the death of our late associate the Board has lost a member whose services for a period of thirty-five years as an attending surgeon to this hospital, and whose labors as a clinical teacher, have contributed largely to the usefulness of the institution in the relief of suffering and in the diffusion of the practical knowledge of surgery.

2. The memory of our late associate will ever be gratefully cherished as the founder of the pathological museum connected with this hospital, which he enriched by the gifts of his large and valuable private collection, and which deservedly bears his name.

3. The members of this Board feel that by the death of the late Prof. Wood they have individually lost a generous, warm-hearted, and steadfast friend, as well as valued associate; and that his death leaves a void which must remain unfilled, not only in the hospital, and in the relations of friendship, but in the medical profession and in social life.

4. The Medical Board tenders the heartfelt sympathy of all its members to the family and relatives of the late Prof. Wood in the loss which they have sustained, together with the hope that they may derive consolation from his merited professional eminence, his long life of usefulness, his unblemished character, and his private virtues.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 2 TO MAY 8, 1882.

KING, WM. S., *Colonel and Surgeon.*—The extension of his leave of absence, on account of sickness, granted him in S. O. 251, November 7, 1881, from A. G. O., still further extended six months on account of sickness.—*S. O. 104, A. G. O., May 5, 1882.*

WILLIAMS, JOHN W., *Major and Surgeon.*—Granted leave of absence for six months.—*S. O. 101, A. G. O., May 2, 1882.*

COWDREY, S. G., *Captain and Assistant Surgeon.*—Now awaiting orders, to report to commanding general, Department of the East, for assignment to duty at Fort Monroe, Va.—*S. O. 103, A. G. O., May 4, 1882.*

HOFF, J. V. R., *Captain and Assistant Surgeon.*—To be relieved from duty in Department of the East, and report in person to commanding general, Department of California, for assignment to duty.—*S. O. 103, c. s., A. G. O.*

PORTER, JOS. Y., *Captain and Assistant Surgeon.*—The extension of his leave of absence, granted him in S. O. 17, c. s., Military Division of the Atlantic, is further extended twenty days.—*S. O. 99, A. G. O., April 29, 1882.*

CARTER, E. C., *First Lieutenant and Assistant Surgeon.*—To be relieved from duty in Department of California, and report in person to commanding general, Department of Arizona, for assignment to duty.—*S. O. 103, c. s., A. G. O.*

RAYMOND, H. I., *First Lieutenant and Assistant Surgeon.*—To be relieved from duty in Department of California, and report in person to commanding general, Department of Arizona, for assignment to duty.—*S. O. 103, c. s., A. G. O.*